

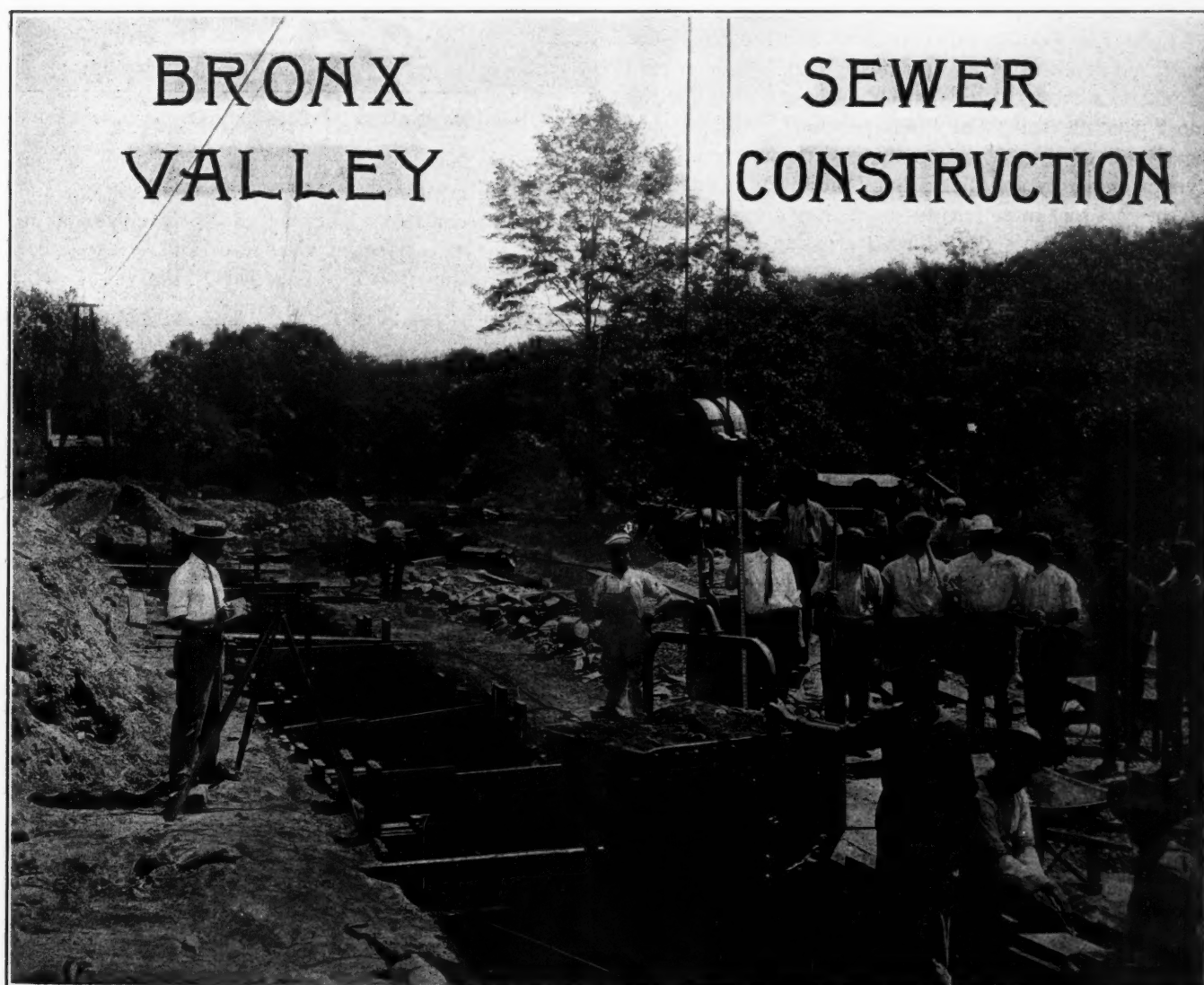
# Municipal Journal

## And Engineer

VOLUME XXV.

NEW YORK, DECEMBER 30, 1908.

No. 27



TRENCH EXCAVATION, USING CABLEWAY

UNDER direction of the Bronx Valley Sewer Commission an intercepting sanitary and outlet sewer is being built through the towns of White Plains, Greensburg, Scarsdale, East Chester, Mt. Vernon and Yonkers; all of which are suburbs of New York City lying in the State of New York. When completed this sewer will receive the house drainage which is now discharged into the Bronx river, and which in two or three cases is at present treated before being so discharged. The flow of the Bronx is so small relative to the large and increasing amounts of sewage entering it that an intolerable nuisance has arisen which it is the purpose of this intercepting sewer to prevent.

The drainage area of the stream is a valley 12 miles long from north to south, and of varying width, but averaging a little less than three miles; the total area being 34.78 square miles. In addition to the main valley, the drainage area includes a smaller one drained by Tibbetts Brook, sewage from which valley will enter the intercepting sewer at a point between the Bronx and Hudson rivers.

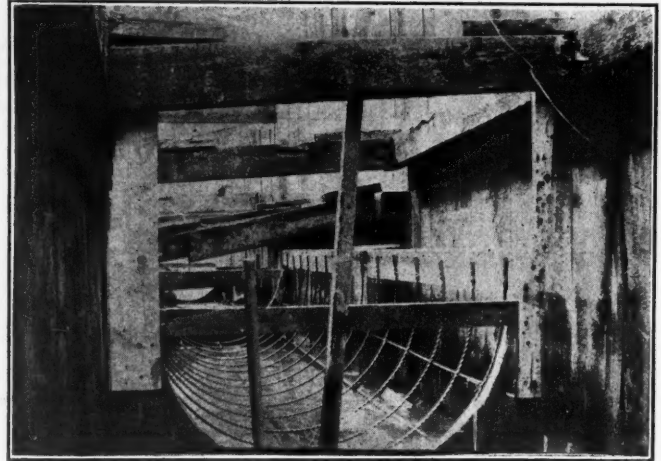
The sewer follows generally the valley of the Bronx to the village of Wakefield, from which point it passes through a rock tunnel three miles long in a generally westerly direction to the Hudson river, into which it discharges at a point well out in the stream and forty

feet below its surface. This section is known as the out-fall sewer. In following down the valley of the Bronx the sewer is compelled by the topography to cross the stream twenty-seven times in order to avoid deep and difficult trenching. At some points hills about seventy-five feet high approach close to the river, while in others there are level plains, the soils of which consist of sand, gravel and alluvial deposits.

The depth of trench from the surface of the ground to the flow line of the sewer averages 12 feet and reaches a maximum of 30 feet. There are in this part of the sewer three short tunnels, amounting altogether to 1,900 feet, 600 of which is earth and the remainder rock, and seven railroad crossings. Rock is encountered in places, some so-called marble and gneiss, but for the most part the soil is of kinds pervious to water, and nearly all of the trench requires to be pumped. The general difficulty and diversity of the sewer is indicated by the fact that these twenty-seven river crossings, three short tunnels and seven railroad crossings, all occur in a distance of about twelve miles.

The work was let in a single contract amounting to about \$2,000,000; the Mack Paving and Construction Company, of Philadelphia, being the successful bidder. Reinforced concrete deposited in place, reinforced concrete pipes and brick were bid upon, and the first was chosen for the construction. Work was started during the summer, but owing to the time required to bring onto the ground the large working plant required, rapid progress was not made at the start, as is usually the case on such large jobs. The value of this plant probably approximates \$200,000 and contains the following as its principal elements: 19 Lidgerwood engines and cable ways; 1 Moore sewer excavator; 3 Climax portable rock crushing outfits; 1 Ransom concrete mixer; a large amount of Duralite sewer centering; Wemlinger steel sheet piling; 22 Ames portable boilers varying from 10 to 50 horsepower; 18 Morris centrifugal pumps; 4 Emerson pumps; 2 Pulsometer pumps; 1 Kingsford centrifugal pump; 20 bottom-dumping wagons with teams; a large amount of 2-inch chestnut sheeting, and a considerable number of small tools. In the rock tunnel section, two air compressors are used, the plants for which were furnished by the Ingersoll-Rand Company, each containing three 150 horsepower tubular boilers and two compressors and air tanks. Two permanent yards of considerable size are used for receiving and storing materials, setting up forms and doing general repair work; one of these being located at White Plains and the other at Yonkers Park.

The contractor now has at work a large and well organized force, the officers of which consist of Freeman H. Merritt as general manager, and Campbell Adams, formerly State Engineer of New York, as engineer. An office force containing a cashier, paymaster and bookkeepers is located at White Plains. The working force operates in four divisions, there being a superintendent in charge of each. The largest division consists of twelve gangs and operates from the north end of Hartsdale to Mt. Vernon. The second, consisting of six gangs, works in White Plains and South White

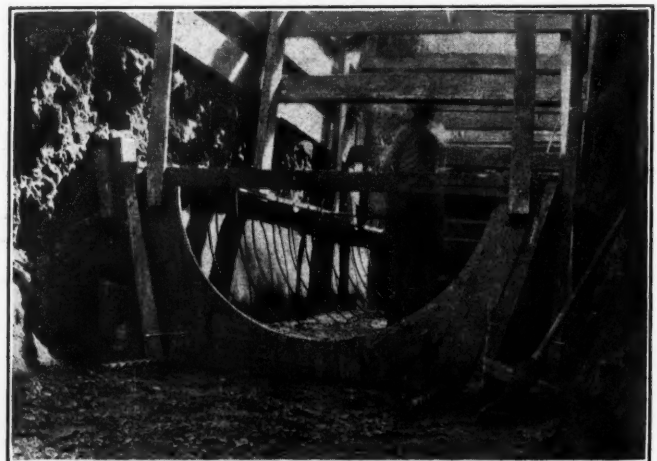


TEMPLATE AND INVERT REINFORCEMENT IN PLACE

Plains; the third, consisting of ten gangs, is employed on the shorter tunnels of the intercepting sewer; and the fourth, consisting of four gangs, is employed in making the twenty-seven river crossings. Altogether there are about 1,200 men engaged on the work. The force on the long rock outlet tunnel is not included in this account.

One man has general charge of all the materials used. His duties are to attend to the distribution of these to the different gangs from the yards where they are received, principally by rail. Sand is found in sufficient quantities along the line of the work. Crushed stone is obtained from quarries on the Hudson river, being brought in scows to Port Morris, whence it is hauled by rail, the railroad nearly paralleling a large part of the work. Alpha cement is used and is brought by all rail. For the reinforcement twisted bars are used, obtained from the Lackawanna Steel Company of Buffalo. Manhole top appurtenances are obtained from the A. W. Findlay Company of Philadelphia. All materials are ordered direct from the White Plains office, which is the general headquarters.

The foremen meet at the White Plains office each evening, as a general thing, and there confer concerning the work and plan for the next day. This additional time is no great hardship, as the working day is limited by law to eight hours. Daily reports are made out and turned in at the office by the timekeepers, showing the



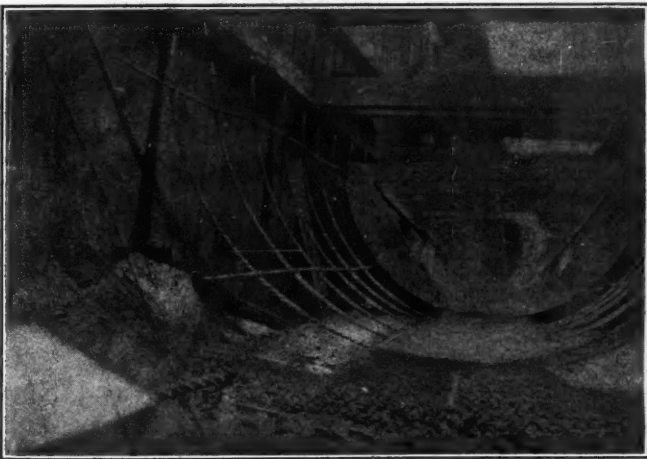
INVERT STRIP OF CONCRETE LAID



amount of work done, the material used and the number of men employed. The president of the company, Mr. J. P. Mack, spends a large part of his time upon the work.

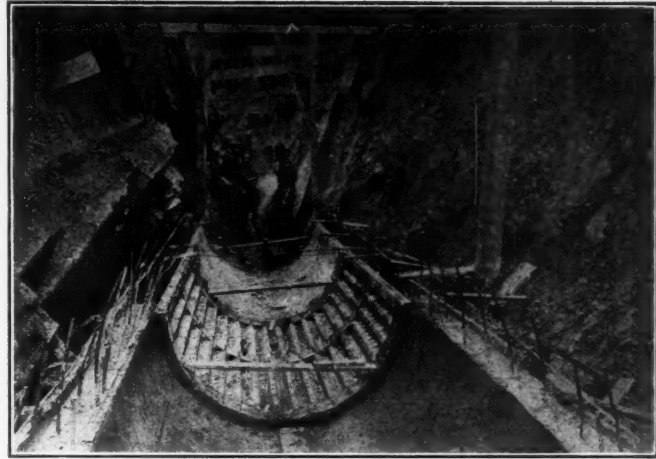
The sewer is circular in section throughout its length and varies in diameter from 3 feet 4 inches at the upper end to 6 feet at the lower. The outlet tunnel section has a diameter of 8 feet 6 inches to the Hudson river, where two lines of 4-foot cast-iron pipe carry the discharge out to deep water.

The sewer begins at North White Plains with an elevation of 179 feet and a diameter of 3 feet 4 inches. Two miles lower down, at White Plains, it has an elevation of 166 and a diameter of 4 feet. At Hartsdale the elevation has fallen to 144 and the diameter increases to 4 feet 6 inches, this drop of 22 feet being obtained partly in two drop manholes and a ramp—an inclined plane of masonry with projections to retard the velocity. Two miles further, at Scarsdale, the elevation reaches 120 feet; and at Yonkers Park, two miles further, an elevation of 89 is reached, this section including two drop manholes with a fall of 7 feet each. The diameter here increases to 4 feet 9 inches and at Tuckahoe to 5 feet. Half a mile further at Bronxville the elevation is 68 and the diameter is reduced to 4 feet 9 inches because of increased velocity. At Mt. Vernon, two miles further, the elevation is 54, and at the mouth of the tunnel the elevation is 38. One and one-half miles north of Mt. Vernon the diameter increases to 6 feet, at which it continues to the outlet tunnel. Just above the entrance to this tunnel the sewer makes a 90 degree curve to the west, on which curve are two drop manholes.



INVERT STRIP READY FOR INVERT FORM

All of the sewers except the tunnel outlet are, as stated above, circular in section and are built in place of reinforced concrete. On nearly all of the sewer completed up to this time Duralite centers have been used. This style of center consists of sheets of light steel reinforced with longitudinal wooden strips of triangular section fastened in parallel rows a short distance apart with one face of the strip against the steel sheet. The centering is made in 8-foot sections, each section being stiffened and held to shape by circumferential bands of steel bolted in contact with the apexes of the triangular strips. The forms used on this work



DURALITE FORM IN PLACE FOR CONSTRUCTING INVERT

were made in quadrants, the two top and the two bottom quadrants being hinged together in pairs, which permits of the forms being collapsed for removal from the sewer after the concrete has set.

The thickness of the sewer walls varies with the size of the sewer, the general rule being to make the thickness one-ninth of the diameter; but at river crossings, railroad crossings and other places where the Chief Engineer of the Commission, George R. Byrne, may think it necessary this thickness is increased. The reinforcement consists of three-eighth inch circular rods twisted. These are placed at intervals of 12 inches around the circumference. Longitudinal rods one-fourth of an inch in diameter are placed at intervals of 24 inches or less. At the springing line of the arch an additional reinforcement is used called the "fence," which consists of two longitudinal bars connected by cross-bars two feet long placed one foot apart. This fence is placed near the outer face of the concrete and is shown clearly in one of the illustrations. All rods are wired together where they cross.

The manholes consist of wells of 3 feet 4 inches diameter, drawn in to a 24-inch opening at the top. They are reinforced with vertical rods  $\frac{1}{4}$ -inch diameter spaced 24 inches or less, and  $\frac{3}{8}$ -inch rods around the circumference spaced 12 inches apart.

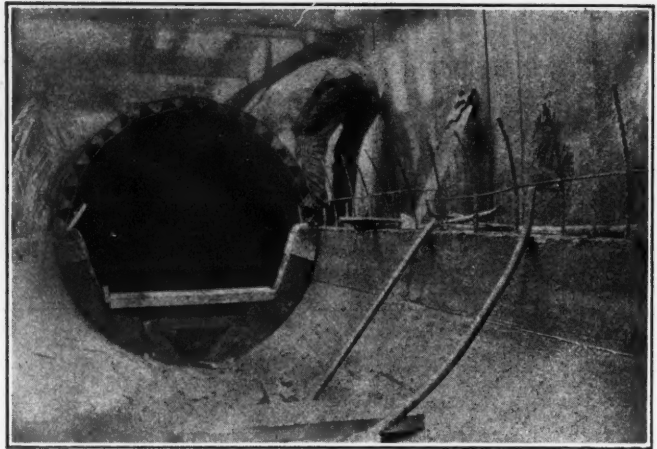
An underdrain is carried below the concrete sewer and consists of an 8-inch vitrified pipe. Where the sub-soil is soft a foundation is laid, this varying in different locations. At some of the river crossings pile foundation is used, and at other places 2-inch planking laid on mud sills is considered sufficient.

In that section where Duralite forms are used the method of construction is as follows: The bottom of the sewer for a width of about two feet, extending from the finished invert to the form ahead, is laid in the open and shaped by shovel and trowel to the desired grade and form; the reinforcing rods having first been set so as to be imbedded in this. The centering for the invert is then put in place and stiffened by inner braces; the reinforcing rods are bent to shape and fastened in the desired positions, and the remainder of the lower half of the sewer is then built up by concrete shoveled into place from platforms supported immediately above. The concrete is mixed by hand on the bank and dis-

charged onto these platforms by chutes. The concrete is proportioned 1:2:4, a barrel of cement being considered to be  $3\frac{1}{4}$  cubic feet. After the concrete has been brought up to the springing line and has sufficiently set, the invert centering is removed and the arch centering put in place, the arch reinforcement sprung to and fastened in the desired position and the concrete for the arch deposited from platforms as in the case of the invert.

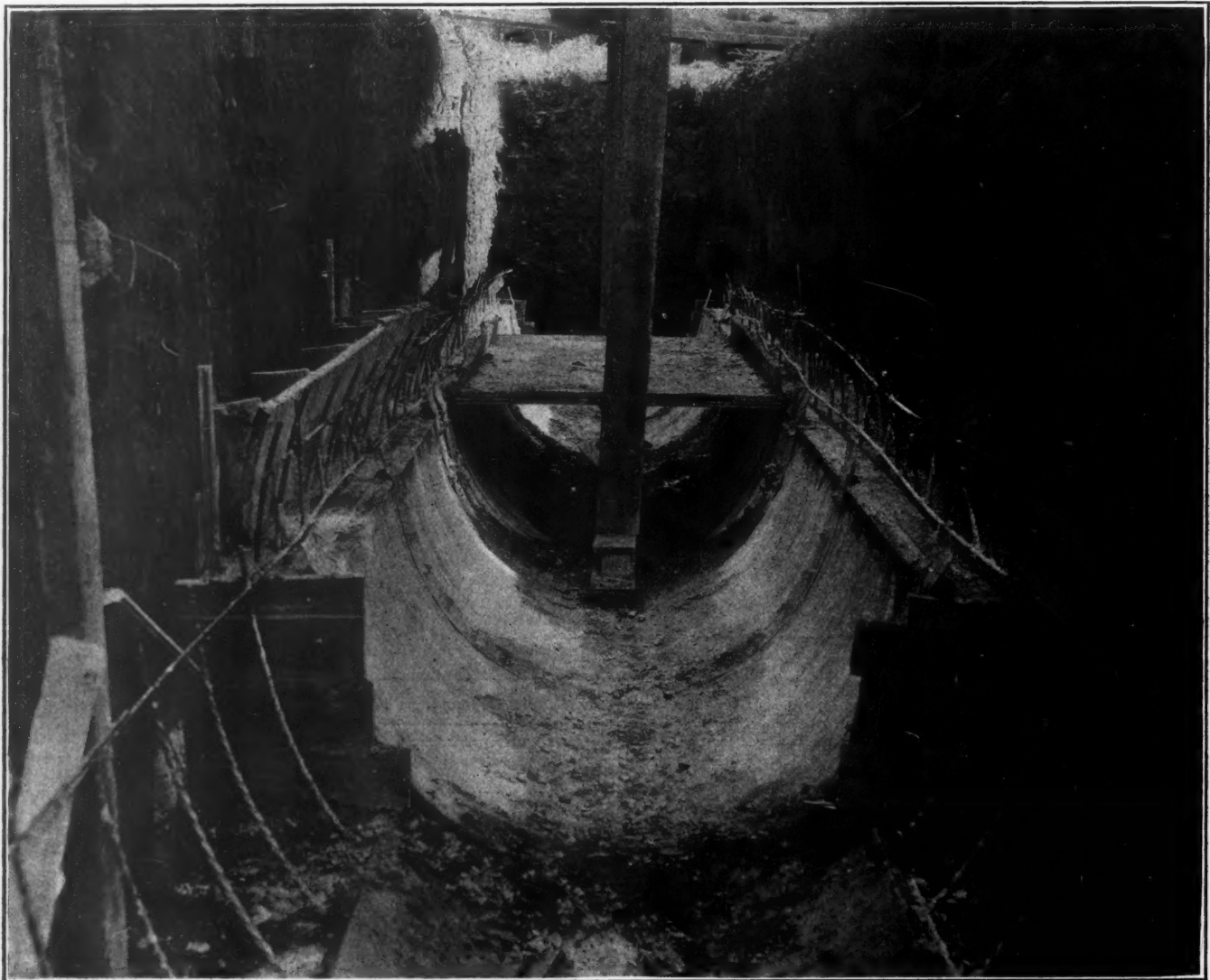
The excavation of this section is done largely by Lidgerwood cableways, although at some points the earth is merely shoveled to the banks and cast back on to the completed sewer. Where the cableways are used, earth removed from the excavation is dumped directly upon the completed sewer without any rehandling. The cableway is shifted after each advance of about 300 feet of the excavation, each shift costing about \$60 and necessitating some delay.

A section of the sewer about 3 miles in length and 6 feet in diameter is being constructed by a different method. The excavation and refilling here is done by a Moore cableway. The framework of this, the platform, and the housing of the engine are carried on a light track, the rails of which rest on stringers placed a short distance back from either edge of the trench. A two-



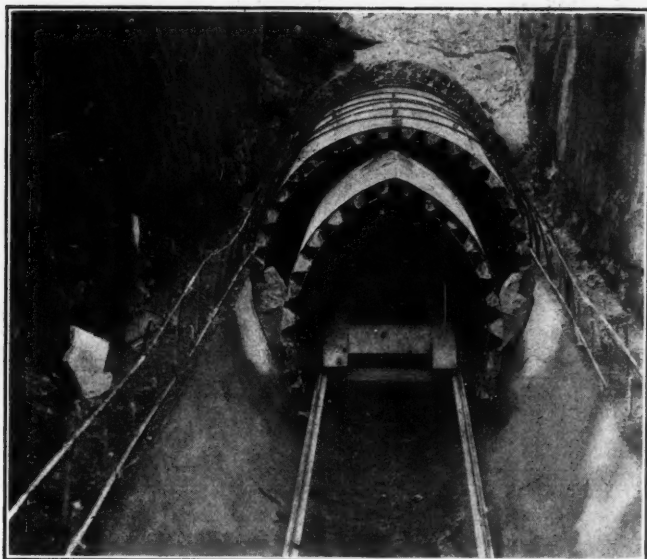
ARCH CENTERING SET, READY FOR CONCRETING

drum Lidgerwood engine is used, one drum controlling the movement of the bucket carrier, which is supported by the frames, and the other raising and lowering the buckets. This bucket carrier or car rests directly on two I-beams which form the upper string pieces of the framework, which last in turn rests upon the tracks along the sides of the trench. The inspector on this work stated that the bucket frequently makes a regular schedule of trips at the rate of a round trip in one min-



INVERT COMPLETED, WITH CENTERING STILL IN PLACE, SHOWING "FENCE" AND CONCRETING PLATFORM

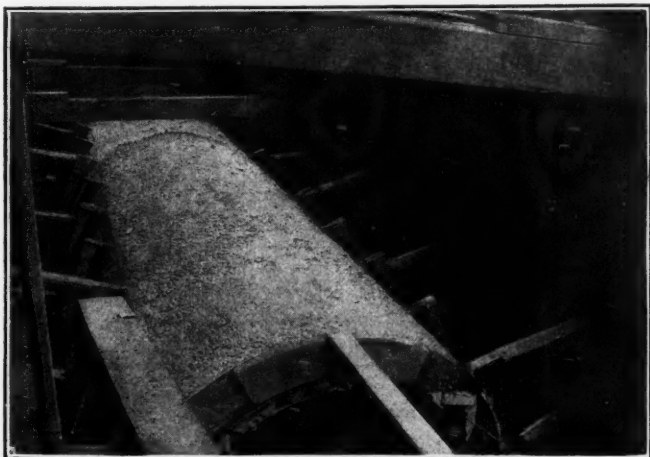




MOVING ARCH CENTERING AHEAD

ute and five seconds. The buckets have a capacity of 1 cubic yard each. The whole excavation outfit, including engine and framework, is moved forward when desired in twenty minutes.

In this section of the work the centers used also differ from those employed on the balance of the contract, being of a kind which was devised by Mr. Moore, the inventor of the cableway. Each section is 12 feet in length and is in reality a pipe made of 3-16-inch steel, composed of four plates of equal width bent to a 6-foot radius. Adjacent plates are fastened together at the longitudinal joints by means of a strip of steel 4 inches wide bolted to the two plates. In the use of these the form is placed with one plate in the proper line and grade for the invert and with its center coinciding with the center of the invert. The entire sewer is then constructed in one operation. After the concrete has set sufficiently the form is removed by unbolting the bottom plate and removing this, after which the other three plates, springing slightly at the joints, are let down onto a car, previously placed in position and which travels on the completed invert and a temporary track placed ahead, and are carried to the desired location for the next section of the sewer. Here the bottom plate is again put in, the form is placed in the desired position and concreting of the next section is begun. Three



COMPLETED ARCH

sections of 12-foot forms, or 36 feet in all, are constructed in one operation, the whole being done in about four or five hours. It is on this work that the concrete mixer is used, this having a capacity of one cubic yard.

The only section of the sewer which has so far been opened up in which water has not been found in the trench was one short section of rock cut. Throughout the remainder of the work the use of subdrains and pumping has been necessary. It is for the removal of this water that it was necessary to provide the large pumping outfit mentioned as a portion of the plant. With the aim of furnishing a protection against ground water seepage, in addition to that offered by the concrete, where ordered by the engineer tar paper is placed on the cradle in the bottom of the trench before the beginning of concreting, the paper being painted with tar to increase the tightness and seal the joints. This is carried up in most cases to the springing line, thus offering the additional advantage that it permits the withdrawal of the sheathing without disturbing the concrete.

### GRAND RAPIDS REVIVAL

THE city of Grand Rapids, Mich., has been making strenuous efforts during the past few months to arouse in all its citizens a realization of their civic duty and an interest in the affairs of their municipality. A petition by a committee of the Board of Trade to the Common Council resulted in the latter appointing a committee of nine citizens to consider methods for effecting this result. The Board of Trade Committee on Municipal Affairs combined with this commission in a systematic campaign, and the local daily papers were persuaded to give generously of their space to arouse interest in plans for a civic revival. The committee distributed thousands of circulars among the school children, sent letters to every organization in the city asking for formal expressions of their approval, placed placards in the shop windows and street cars, and set apart a week to be devoted to the direct information and en- thusing of the citizens. For this latter purpose they relied largely upon Professor Zueblin, who lectured in the largest auditorium in the city on such subjects as "The New Civic Spirit," "The Training of the Citizen," "The Making of the City," etc. Evening lectures, illustrated by lantern slides, described what had been done in the way of city planning and improvements in Washington, San Francisco, Harrisburg and other American cities. The audiences increased nightly in size, and by Friday night the audience was larger than could be contained in the auditorium. On Saturday a practically unanimous vote at a meeting of eighty of the more prominent business men favored the appropriation by Council of money for the preparation of a city plan, and hundreds of signatures were obtained to petitions for the same. The Monday immediately following this week was that in which the annual budget was to be passed, and it is believed to have been solely because of these meetings that Council consented to include provision for the city plan in next year's budget.

The immediate aim of many in this revival was the securing of this appropriation; but a much more valuable

and it is to be hoped permanent result was the arousing the public interest. With the idea of still further fostering this public spirit the public library of the city has arranged for eight lectures, delivered every other week from December to March, to be given by representatives of various Boards and Departments, showing the work they do and the money they receive and spend for the city. Most of these will be illustrated with lantern slides and at each lecture there will be an opportunity to ask questions of the speaker. The Boards of Education, Parks and Cemeteries, Health, Police and Fire, and Public Works, will be represented by officials of each, and Mayor Ellis will describe the work of the Mayor and Common Council and of the various boards considered comprehensively. Of these the Board of Public Works expends by far the largest amount of funds, controlling the water works and light plant, streets and sidewalks, sewers, etc. Samuel A. Freshney, Secretary of the Board of Public Works, and City Engineer L. W. Anderson will explain the work of this department at a public lecture, February 5.

### SPRING WATER SUPPLY OF ABILENE

**Spring Walled in to Prevent Pollution by Adjacent River—  
Used for Centuries by Indians—Yields Two  
Million Gallons a Day**

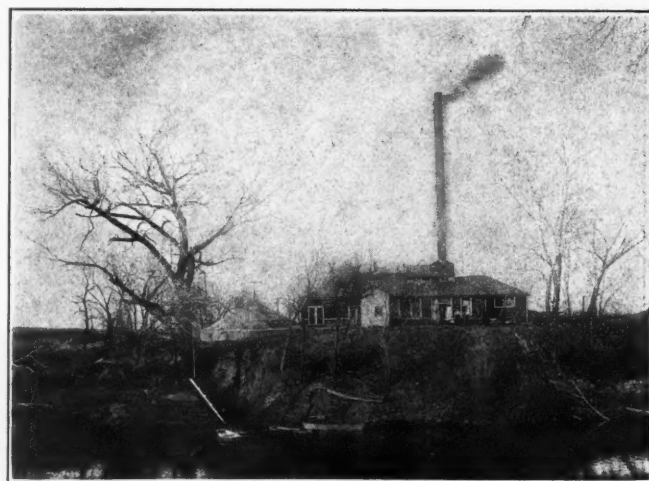
By A. C. ROMIG, City Engineer

THE source of water supply for the city of Abilene, Kan., is a remarkably strong spring of pure, soft water located on the left bank of Smoky Hill River, four miles west of Abilene, fifty feet north of the shore line and one foot above low-water mark in the river to the surface of the spring. It is on the line of the old Fort Riley and Santa Fé trail, and on the present route of three Trans-Continental lines of railway, the Union Pacific, Santa Fé and Rock Island systems, 20 and 15 feet apart respectively. In the late forties, during the California gold fever, and in the fifties and sixties, this point was a noted camping ground for emigrants crossing the plains, and at an earlier date a resting place for the Indians in their migration north and south, who attached to the spring a multiplicity of Indian folk-lore and superstitions, and poured into the waters of the spring oblations in propitiation of their god Manatau.

In order to control and utilize this water, we found it necessary to build a wall (or well) around the spring 30 feet in diameter, and to make it 29 feet high to carry it above high-water mark.

In excavating for the foundation we struck bed rock at a depth of four feet and found the water issuing from a crevice between two slabs of limestone rock, one above the other, and in such force and volume that it required the service of a centrifugal pump discharging 15 gallons per second to keep the water clear of the workmen.

From data obtained in 1889 by measuring the end area, the length of channel and the velocity of current in the channel of discharge, we computed the output of the spring at 1,036,000 gallons per day of 24 hours. In 1890 this estimate was verified by Geo. Pierson, of New



VIEW OF SPRING AND PUMPING STATION FROM ACROSS SMOKY HILL RIVER

York, the engineer in charge of the water works construction. But in excavating we found numerous rivulets finding their way into the river in other channels than the one measured. These, when concentrated, largely augmented the volume of output. More recent data obtained from the pumping station and waste pipe places the total output at easily 2,000,000 gallons per day. We think we have an ample supply for many years to come, and the acme in purity of running water, as is indicated by the following analysis:

	Grains per Gallon.
Organic materials .....	0.100
Silica .....	0.700
Alumina and oxide of iron.....	0.300
Bi-carbonate of calcium.....	7.165
Bi-carbonate of magnesium.....	0.895
Sulphates and bi-carb. of sod. and potas.....	2.825
Chloride of sodium.....	0.570

	Parts per Million.
Free ammonia .....	0.0200
Albumenoid ammonia .....	0.0225

This is a wholesome drinking water; it contains excellent, soft, appetizing mineral ingredients, and is of great organic purity, as is shown by the very small amount of albumenoid ammonia and organic matter amounting to not much more than traces.

W. D. CHURCH, Chemist.

Topeka, Kansas.

The upper part of the wall surrounding the spring was poorly constructed, was not water proof and during flood periods the water of the river penetrated the wall and contaminated the water in the spring; hence it became necessary to cement the well wall both inside and outside. The water in the spring is now safely protected from contamination.

The pumping station is equipped with two Worthington pumps of 1,000,000 and 1,600,000 gallons capacity respectively. The stand pipe is located within the city limits, rises 100 feet above the foundation and is equipped with an automatic cut-off enabling us to use direct pressure from the pumps. A 12-inch main about four miles long conveys the water from the spring to the city.

On the left hand side of the picture, which shows the pumping station and well, is seen a white column clinging to a large cottonwood tree. This is a portion of the U. S. water gauge from which daily readings, showing the stage of water in the river, are taken and forwarded to the weather bureau at Kansas City.



# MUNICIPAL JOURNAL AND ENGINEER

Published Every Wednesday by Swetland Publishing Company

THIRTY-NINTH STREET BUILDING  
231-241 West Thirty-ninth Street, New York

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Telephone, 2046 Bryant, New York

## SUBSCRIPTION RATES

United States and possessions, Mexico, Cuba.....\$3.00 per year  
All other countries..... 4.00 per year  
Entered as second-class matter, January 3, 1906, at the Post Office  
at New York, N. Y., under the Act of Congress of March 3, 1879.

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It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

DECEMBER 30, 1908

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## Winter Work in Engineering Department

WE commend to the consideration of other cities the action of Bridgeport, Conn., which is keeping its engineering force on the pay rolls during the winter, and employing it in making block maps of the city. Good assistants on an engineer corps cannot be obtained where it is the general practice to lay them off during the winter; and frequently changes in personnel places an incumbrance on the city engineer and interferes with economical work in the department. There are few cities which could not find for its engineering force an official map of the city or plans of all underground structures; filing the maps and records safely and systematically, and compiling ordinances and other data relative to street grades to discover discrepancies, of which there are more in most cities than is suspected, especially where changes in the engineering department have been frequent.

## Free Water and Waste Increase Rates

THE cost to the city of Chicago of pumping one million gallons one foot high, exclusive of fixed charges, was 3.38 cents in 1907 or 3.76 cents including these. The average head was 113.74 feet, and the cost was therefore \$4.277 per million gallons pumped, or 0.4277 cents per thousand gallons. The total cost, including sinking fund, depreciation and interest on invested capital at 3 per cent. was 2.9 cents per 1,000 gallons. The total revenue per 1,000 gallons pumped was 2.845 cents. It is believed, however, that 50 per cent. of the water pumped was free service, leakage and wastage, in which case the cost and revenue for water actually delivered to paying consumers would be double the above.

It was estimated that the water furnished free was about 26 per cent. as much as that sold to consumers, the value contributed to various departments and buildings being as follows:

## Free Water Service by Chicago Water Works in 1907

CLASSIFICATION.	AMOUNT.
(A) Fire hydrants (22,127 at \$40.00 each, based on hydrant rentals).....	\$ 885,080.00
Public parks.....	130,000.00
Street cleaning and sprinkling.....	38,325.00
Flushing sewers.....	8,124.00
Track elevation and street improvements.....	5,000.00
Public schools.....	64,080.38
Private schools and colleges.....	20,094.14
Fire engine houses.....	3,316.94
Police stations.....	2,226.71
Public baths.....	2,813.50
(B) Electric light plants.....	13,341.00
Small parks and playgrounds.....	10,777.84
Miscellaneous city property.....	30,835.82
Churches and parsonages.....	33,636.68
Hospitals.....	8,820.53
Asylums and Homes.....	2,997.36
Miscellaneous.....	8,568.20
Total.....	\$1,268,039.00

(A) Estimated by City Engineer.

(B) Recorded as decreases upon the Books of the Bureau of Water—Assessed rates, \$174,786.65; meter rates, \$26,722.45.

The deficit of the Department is figured to be about \$93,500, including depreciation (figured entirely too low, in our estimate), interest, sinking fund and actual expenditures; which would probably be somewhat increased if all items were included which, in the opinion of many expert municipal accountants, should be.

As we have stated with reference to the water works finances of several other cities, we believe this to be wrong from a business point of view. The Water Department should pay its own way, and stand on its own bottom. If the city should pay over to the Department the value of the services rendered free, as stated in the above table, there seems to be little question but that all expenditure could be met, including payments of interest and adequate sums into depreciation and sinking funds.

City Engineer Ericson, in his report, presents for consideration another method of accomplishing this purpose. This is to reduce the leakage and waste, estimated at more than one-third of the pumpage. He states that at present the city obtains less than two cents per 1,000 gallons for unmetered water pumped, while the cost is nearly 3 cents. Quite extensive waste surveys have been carried on, begun in 1904 by Edward S. Cole, using the

pitometer. These have made possible the cutting off of considerable loss of this kind, but enormous amounts still remain to be discovered and remedied.

With these losses eliminated the Department would be upon an independent footing and could carry out needed improvements. This work should undoubtedly be completed, and probably will be. If, in addition, the city should pay for all services rendered, the water rates could be reduced also. Both these recommendations are based on sound business principles; and, as is generally the case when such are employed, their adoption would result in lessened cost to the consumer and improved service.

#### SHALLOW TRENCH TRUNK SEWER

UNDER the direction of the Board of Trustees of the Pleasure Driveway and Park District of Springfield, Ill., there was constructed in Washington Park in that city, as described in the latest report of the trustees, a 5-foot double-ring brick sewer, 4,000 feet long. The original profile of the sewer was such as to give an earth cover of not less than 3 feet over the crown of the sewer in all places where it crossed the park roads. When about one-half of the sewer had been constructed, however, hard blue sandstone was encountered in the trench, although previous soundings along the line of the sewer had indicated the presence of soft shale which could be easily excavated by pick and shovel, which shale was found to be only a 6-inch covering to the sandstone.

The trustees, realizing that a great expense could be saved if it were permissible to elevate the grade so as to avoid excavating the hard sandstone, considered the advisability of laying the sewer with a depth of fill less than the 3 feet which was contemplated. To test this, a steam roller was run over a completed portion of the sewer which had but 6 inches of earth covering, without any apparent injury to the sewer. The board, on the strength of this, resolved to authorize the raising of the sewer grade so that there should be at least a 12-inch covering at all road crossings. (In general the sewer ran through the park directly, and did not attempt to follow the roads.) As an additional precaution it was required that the arches of the sewer at all road crossings should be laid in Portland cement, Utica cement being used for the balance of the sewer.

This sewer took the place of an open ditch into which

street sewers and surface drains had previously emptied, and thus removed from the park what had previously been a great nuisance. The total cost of the 4,000 feet of sewer was \$18,073.60.

#### NEW ORLEANS STREET REPAIR PLANT

THE New Orleans street repair plant, which was described in the MUNICIPAL JOURNAL for November 6, 1907, has been working at practically its full capacity during the past year, and this capacity has been somewhat increased. It was found that the original boiler capacity was not sufficient for operating all departments of the plant simultaneously, and a 100-horsepower boiler plant has been installed, the old one being held in commission for emergency. At the same time the engine room was enlarged and altogether \$4,000 was spent on these changes and additions to the street equipment.

The city appropriated \$35,000 for street work by this plant, and all but a small part of that contemplated by the appropriation ordinance has been completed. In addition to municipal work, the plant has earned approximately \$15,000 by doing pavement repairing for the New Orleans Railway and Light Company and for various plumbers and by the sale of asphalt wearing surface to the city of Mobile.

The maintenance work covered a total area of 353,114 square yards of asphalt pavements. The total actual cost of materials and labor employed on this work was \$15,608.74, and the gross cost, including special and general charges, was \$27,545.59. This makes an average cost of 7.8 cents per square yard. That during the previous year was 11.44 cents per square yard, each of these being per square yard under maintenance and not for the area actually repaired. The reduction this year is attributed by City Engineer Hardee not so much to greater economy or experience in operation as to the fact that when the plant began operation last year the streets were in a much worse condition than at the beginning of the present year.

In addition to repair work, the plant was used in the construction of new asphalt pavements costing \$14,409.33, and for constructing other kinds of new pavements costing \$23,445.84; also for miscellaneous improvements costing \$74,398.71. It is seen that only about 20 per cent of the total expenditure was for repair work, and that over one-half of it went for miscellaneous improvements.

In constructing the new pavements a considerable saving in the cost of the concrete foundation was made possible by the fact that the rock cost the city nothing, the only cost for the broken stone being that of the labor and electricity employed in crushing, which was 51.4 cents per cubic yard. Two streets which had been originally paved with vitrified brick, which had become badly worn, were resurfaced by cleaning the brick surface and painting it with a naphtha coat and then applying an asphalt wearing surface having a thickness of two inches, concrete gutters being constructed on each side of the roadway. Altogether the plant turned out 86,004 cubic feet of wearing surface mixture, which was employed both in repair and new work.



BUILDING SHALLOW SEWER, WASHINGTON PARK



## NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

## ROADS AND PAVEMENTS

**Fourteen Miles of Cement Walk Laid in Battle Creek**

Battle Creek, Mich.—During the past year 358,755 square feet of sidewalk were laid in the city—fourteen miles of the standard 4½-foot width. Of this amount, 1,728 square feet were laid by private contract, the balance by the city gangs. About 35,000 square feet more were laid than during the previous year. Two gangs of men do nearly all of the work and they have become expert at it. Battle Creek claims to have better and cheaper walks than any other city in the State.

**Engineers Make Block Maps in Spare Time**

Bridgeport, Conn.—City Engineer M. F. McKenna has turned over to the Board of Assessors the first of a number of block maps which are being made in his department in accordance with the understanding that his force would devote the spare hours of the winter on the work. Mayor Lee took up the matter immediately after his inauguration, and he found that the total cost of having the work done immediately would be \$20,000. There was such a demand upon the city's revenue a year ago that the Mayor decided not to ask the Board of Apportionment for the money for the block maps, and a few months ago when there was danger of a deficiency in the appropriation for the City Engineer's office, a special appropriation was made by the Council with the understanding that the City Engineer's force would put all of the spare time on the preparation of block maps.

**Investigates Charges of Defective Work**

Charleston, S. C.—There has been a good deal of trouble, real and imaginary, in connection with the paving of Main street. First, a contract was let to pave it with brick. This was annulled on account of failure of the bricks to come up to specifications, and the street was turned over to the Atlantic Bitulithic Company to be paved with bitulithic. A paving commission resigned and a new one was appointed and a change of engineer was made. Now a committee of Council is investigating charges made by Engineer Black that the street is defective in that its surface varies more than 3-16 of an inch when tested with a 12-foot straight edge and that the material is not as thick as it should be. Test places cut in the pavement show that the material averages rather thicker than the specifications require. The surface in some places is not as true as required in the specifications, a straight edge showing 1-2-inch depressions. The general opinion is that this requirement is unreasonable for a plastic material pressed to place by heavy steam rollers.

**To Widen Busy Street**

New York, N. Y.—The Board of Estimate has voted to widen the Forty-second street roadway between Madison and Sixth avenues by 16 feet. Eight feet will be taken from the sidewalks of each side of the street and added to the width of the roadway. The improvement will give a width to the roadway from curb to curb of 68 feet and will do away for some time to come consideration of the plan to depress Forty-second street under Fifth avenue.

**Big Plow Used for First Time**

San Francisco, Cal.—In the repaving of Folsom street, owing to the extremely bad condition of the street, an eight horse Garry plow was used under the supervision of Superintendent of Street Repairs, Broderick, to expedite the work. The use of a plow, heretofore unknown in street work done by the city, accomplished the work in quick time, and made a material difference in the cost of preparing the street for the pavers.

**Meadville Prepares for General Improvement of Sidewalks**

Meadville, Pa.—A resolution has been introduced in Council providing for the building of sidewalks and the issue of improvement bonds to pay for them. The plan is for the City Clerk to advertise in the official paper notifying all citizens desiring to take advantage of the legislation to file requests, stating the location of their sidewalk and the kind of material they wish to use, whether stone or cement. When this information is obtained the City Engineer will tabulate it and advertise for bids. It is expected that there will be requests for 30,000 or 40,000 feet of pavement.

**Year's Record of Street Work**

Pittsburg, Pa.—In the Department of Public Works 52.2 miles of water pipe have been laid at a total cost of \$804,334; 248,529 square yards of asphalt resurfacing and patching has been done at a total cost of \$205,656.09; 41.24 miles of sewers have been built at a cost of \$579,883.50; 203,392 feet of streets have been graded, paved and curbed at a cost of \$2,105,799.30; 87,476 feet of streets have been repaved at a cost of \$691,014.31, and 12,700 feet have been graded at a cost of \$108,402.34. In addition to this 478,399 square yards of sidewalks have been relaid.

**City Investigates Paving Costs**

Portland, Ore.—Councilman Cellars is the father of a resolution passed by the City Council requesting the City Engineer to prepare figures for presentation to the Council showing the actual cost of the material used in the various hard-surface pavements which are laid in this city, the actual cost of the labor for making the street, the cost of maintaining offices of the various paving companies, and the salaries paid attorneys, and other incidental expenses of the paving barons. These figures will all be worked out to determine the actual first cost of laying pavements in this city, without the profits of the various companies. Included in the list of pavements are the stone block, vitrified brick, asphalt, bituminous macadam, bitulithic, Hassam, and cement pavement similar to the Hassam.

**Would Discontinue use of Brick Pavement on Hills**

Scranton, Pa.—Believing that a brick or asphalt pavement on streets where heavy grades exist is dangerous to travel, efforts are to be made by Director of Public Works, C. R. Acker, to secure an appropriation to cover the cost of replacing brick on at least two streets with stone block. He is now figuring on the cost of replacing the brick on the Court street hill and on Scranton street with stone block, and these estimates will be presented to councils in a short time. The degree of grade on Court street hill is exceptionally heavy, while that on Scranton street is also quite dangerous. Horses traveling the street frequently slip and the city is thereby laid open to paying damages as a result of accidents which the pavement may cause. To save such damages Director Acker plans to change the pavement material.

**Would Allow Streets Torn Up in Winter**

Youngstown, O.—An ordinance has been introduced and passed the first reading, repealing the ordinance providing that no permits for excavation in the city streets shall be made between November 15 and March 1. In a talk to the Council the City Solicitor gave a number of instances where the ordinance is declared to have worked a hardship. One of these was where a manufacturing company was unable to make connections for the proper fire protection of its plant.

## SEWERAGE AND SANITATION

### City Bacteriologist Reports on Laboratory Work

Athens, Ga.—A report of the Board of Health included a report of the work of city bacteriologist C. A. Wells during the month, in which his laboratory has been equipped and in operation. In that time he has made one hundred and thirty examinations, including examination of water samples, of milk samples, of hook-worm disease, of diphtheria and of consumption. One feature of his report that is striking is that in all his examinations of well water he has not found a single well that was free from contamination of some kind. This bears out the contention of the Board that practically all the cases of typhoid fever have come from well water. Mr. Wells is now engaged in making analyses of the city water works water, having taken samples from the river, lake, cistern and hydrants. Daily analyses of milk are being made, samples being taken from milk cans without notice to dairymen. Thus far the analyses have shown up well. This work will be continued.

### Typhoid Epidemic at Georgetown

Georgetown, Ky.—An epidemic of typhoid is raging in Georgetown, due to the pollution of the Big Spring water by sewage, which it was discovered was being emptied near the water intake. Advices have been received here to the effect that there are now between 125 and 150 cases of the typhoid. Every doctor in the city is being worked to the limit of endurance, and calls have gone out in many instances for medical assistance from the surrounding towns.

### Alderman Disapproves Lateral Sewer Law

Morristown, N. J.—Alderman Oliver K. Day brought up the matter of having lateral sewer pipes throughout the town, and moved that action be taken to secure an amendment to the sewer law, authorizing the board to lay all laterals, and charge the cost up to the property to be a lien upon it. The city may then issue notes to pay for the work, these obligations being paid off as property owners pay for the laterals, with interest. This will enable the city to give the work to local contractors, all the streets of the town may be made ready for rebuilding in a year or two, and property owners may have all the time they wish, up to ten years, in which to pay for their laterals.

### City Health Is Improving

New Orleans, La.—Remarkable because it shows a drop of 1.18 per cent below that of the corresponding month last year, New Orleans's death rate for November, 1908, was but 19.69, according to a report submitted by City Health Officer W. T. O'Reilly at a meeting of the Board of Health. The white rate was 16.74 and the colored 27.87 per cent. The typhoid fever, of which there are 52 cases, is in part explainable by the prolonged drought and the warm weather experienced during November, with the unusually large number of flies at this time of the year.

### Boards of Health Meet For United Action

Pittston, Pa.—A meeting of the boards of health of the different towns and boroughs in the immediate vicinity of Pittston was held in the Pittston City Hall for the purpose of getting together on some uniform rules for fighting the present epidemic of scarlet fever. Dr. Charles Miner, representative of the State Board of Health, gave the assemblage some valuable information in regard to the health laws of the State and the powers vested in the school boards and councils of cities, boroughs and townships, to enforce them. While it was the opinion of those present that the present state of affairs is due in a measure to the indifference of the people generally, and particularly the foreign element, to the quarantine rules in cases of contagious diseases, it was also brought out that the physicians of Pittston and vicinity are very negligent in not reporting cases to the different health officers as promptly as they should.

## Will Destroy Poplar Trees

Cambridge Springs, Pa.—The Borough Council has passed an ordinance requiring that all poplar trees within fifty feet of a public sewer be destroyed, and all trees of this species on public streets meet the same fate. The tendency of the roots of these trees to in some way work into sewers is responsible for this action.

### People to Decide How to Finance Sewers

Chambersburg, Pa.—The Board of Trade is urging the construction of a sewerage system and has had a report prepared by a committee giving details of three methods of financing the project. The plans are by granting a franchise to a private corporation; a general bond issue, which would require a higher appraisalment of the value of property in the borough; or by the front foot plan and the issue of liens on property in cases where the owner did not care to pay cash. These plans will be submitted to the people, who will be asked to express their preferences in petitions. Anyone having any other plan is invited to submit it for consideration.

## WATER SUPPLY

### Dover's Water Loss Solved

Dover, N. J.—By the simple closing of a valve, Superintendent Charles P. Cook, of the Water Department, has effected a saving of \$70 a week. The valve led to a stand-pipe belonging to a large manufacturing concern with which the city had a contract to furnish fire protection. It had been noticed for some time that the stand pipe was overflowing, but it was supposed that the water came from the company's private supply. The closing of the valve revealed the true condition of affairs.

### To Fight Water Company

Jeffersonville, Ind.—At a special meeting of the City Council it was decided to bring suit against the Jeffersonville Water Supply Company to compel it by a writ of mandate to carry out the provisions of its franchise. A communication was read from Wilmer T. Fox, City Attorney, calling attention to the present unsatisfactory water service, and recommending that proceedings be filed to compel the water company to carry out the provisions of its contract, and to retain assistant counsel for that purpose. An ordinance as recommended was adopted without a dissenting voice and \$500 was appropriated for the purpose of employing assistant counsel.

### City To Buy Water Works in February

Jersey City, N. J.—Jersey City expects to buy the new water works at Boonton from the Jersey City Water Supply Company in February. By that time it is expected that the Court of Chancery will have definitely decided just what is the amount that Jersey City should pay the Jersey City Water Supply Company for those water works under the contract of February, 1899. The contract price is \$7,595,000, but there will be some big reductions. Several of these have already been decided upon by the courts. When the city has taken possession of the plant it will have water to sell to neighboring municipalities. Negotiations have already been entered into for supplying Bayonne, Hoboken, Kearney, East Newark, at a rate of from \$10 to \$20 per million gallons less than these cities are now paying to private water companies. The right of Jersey City to supply these towns is questioned by the water companies, and the matter may go to the courts.

### Pumping Station Undermined

Guthrie, Okla.—The city pumping station at Island Park is in a dangerous condition owing to undermining of the foundations by the recent high water. The main building has sunk several inches. An archway between the pumping house and the clear water well fell in, breaking the main, cutting off the city's supply. A private pumping plant in a factory supplied the city until repairs were made. A retaining wall will now be built to avoid further difficulties.



**STREET LIGHTING AND ELECTRIC POWER****Company Argues Against Municipal Lighting**

Dayton, O.—The Dayton Lighting Company, in a letter to the Board of Education, asks that that body, instead of installing a lighting plant in the Stivers Manual Training High School, first use power generated by the company. The company states that at the present time the Board has no way of ascertaining how much it will cost for the power they will use, while they can almost estimate by the use of their power for a short time just what it will cost in the future. The lighting company agrees to install everything free of any charge to the Board, in order that it may ascertain what it will cost. The company says that it does not think that enough power will be consumed to warrant the installation of a plant, and that if such was the case the expenditure would be unreasonable. If the plant is to be used as an educational feature the lighting company suggests that the Board use its plant for such a purpose, and that the company will set aside certain nights, and provide guides to take the students through the plant. In conclusion the company mentions several prominent firms of the city which have abandoned their private light plants in favor of the service provided by the lighting company.

**Would Extend Water and Gas Pipes By Assessment**

Duluth, Minn.—In lieu of the proposed assessment of  $1\frac{1}{2}$  mills against all the taxable property of the city for the purpose of providing a fund to take care of the Water and Light Department bonds, as provided in an amendment to the charter that will be put to a vote of the people at the February election, Alderman Foubister has a new plan, whereby every lot in the city of Duluth, in front of which water or gas pipes, or both are laid, shall be assessed at the rate of 5 cents a linear foot, money thus obtained to go into a fund intended to care for the bonds in question. His amendment would include a provision to the effect that actual users of the water and light, who paid the tax of 5 cents a foot on the pipes, should be entitled to a rebate of an amount exactly covering the tax. The amendment provides that the tax shall be levied the first of May each year until the amount received by the city from each and every lot in front of which pipes are laid, shall equal the cost to the city of such pipes as are laid in front of the lot, and the expense of laying them, together with interest thereon at the legal rate.

**Lighting Plant Breaks Down**

Lee, Mass.—A bad breakdown recently occurred in the plant of the Lee electric company which put the city in darkness. Investigation showed that the piston rod on the 225-horse-power steam engine had broken and before the engine stopped it had ruined both cylinders and done about \$2,000 damage. The smaller engine was started 30 minutes after the accident and light furnished to a part of the town. Power is being obtained temporarily from plants nearby.

**Club Presents Lighting System To City**

West Aurora, Ill.—The Improvement Club has completed an installation of seventy lamp-posts and presented it to the city which will maintain the lights. It was decided to install multiple tungsten lamps on artistic iron posts, fifteen feet high, and carrying two side-arms, each supporting 100-watt tungsten lamps, at about twelve feet from the ground. A sixty-watt tungsten lamp is placed on the top of the post, and the lamp sockets are supported by the cable conductors, which extend about two inches from the iron support. This method obviates a shock being transmitted to the lamp in case the post should be struck by a passing vehicle. Clear lamps are used, with an eight-inch opalescent globe placed over the lower lamp, and a ten-inch globe over the upper lamp. The posts are placed fifty feet apart, exactly opposite on each side of the street. At street crossings a four-arm post is used. All wires are run in underground conduits.

**FIRE AND POLICE****Fire Pipe Line To Cost \$500,000**

Baltimore, Md.—Consulting Engineer Daniel B. Banks, who is employed by the Fire Department in preparing plans for Baltimore's proposed fire pipe line system, has completed his estimate of the cost of the work and the plans also. According to the estimate, the cost of the work will come within \$500,000, including the price that will probably have to be paid for a lot for the pumping station. He estimates that the cost for the pumping station, including the building and machinery, will be about \$200,000, while the work of laying the mains and the cost of material will aggregate about \$250,000. Negotiations are in progress for the purchase of a lot for the pumping station in the vicinity of Lombard and South streets at about \$25,000. Broadly speaking, the plans for the system will provide for a network of mains running down the center of streets in the business district, with connections at frequent intervals for the attachment of hose lines or nozzles. With the power from the pumping station, the need for engines could be eliminated except when extra power was required. With the frequent intervals for outlets in the mains it would be possible to throw a curtain of water about any one block, thus isolating it from the rest of the business district.

**Test of Chicago Fire Boat Made**

Chicago, Ill.—The final test on the strength of which James Horan, chief of the fire department, expects to recommend the acceptance of the Joseph Medill, the first of the city's new fireboats, has been made. Nine two-inch streams, one four-inch and one three-inch were in operation at one time. The craft has a total capacity of eighteen two-inch streams and the two larger ones each have a pressure of 150 pounds to the inch. A stream was thrown 300 feet on the horizontal and 135 feet perpendicularly at the test recently made.

**Rearranges Alarm To Save Men**

Kansas City, Mo.—The Fire and Water Board is arranging with the two telephone companies for a new system of fire alarm connections between the fire stations. As it is now, they are all on a circuit and the alarm goes to all of the houses at the same time, arousing all of the men from their beds wherever the fire may be. If the circuit is out it disconnects about half the stations at one time. A direct line is to connect each station with headquarters independently. When a fire is in a certain district the alarm will go only to the companies that are to respond, unless it is a fire of large proportions. If a line is out it will disconnect only one company. A direct wire is to go also to the Turkey Creek pumping station and the chief's home.

**Fire Whistle May Be Abandoned**

Lynn, Mass.—Chief Thomas A. Harris, of the Fire Department, is seriously considering the advisability of recommending the abandonment of the powerful fire whistle at the Lynn Gas and Electric power plant, and unless good argument for the continuance of the use of the whistle is made to the Chief, he will take immediate steps to convince the city government of the necessity of dispensing with it. The troubles which drivers of apparatus have been forced to contend with of late have started the Chief upon a campaign against the whistle. Practically all of the call men of the department have their homes equipped with tickers, and their places of employment are so equipped, and but little objection may be made by them to the discontinuance of the whistle. Another objection to the whistle is the large number of people who congregate at almost every fire and bother the firemen, and while Chief Harris has no criticism to make of the manner in which the Police Department handles crowds at fires, he does say that his department has been greatly hampered by the curious.

#### Bloodhounds Considered Valueless

South Bend, Ind.—Bloodhounds to aid the police of South Bend in running down criminals will not be purchased unless city officials change their views. As matters now stand the Council and Board of Public Safety members are opposed to the proposition and it is very improbable that action will ever be taken. The bloodhounds would cost \$300 and would mean an annual expense of possibly \$1,200, as a keeper would be required. Councilmen have taken up the matter with other cities where bloodhounds are in use and found it the opinion everywhere that the hounds are of little use in a city the size of South Bend.

#### More Pay for Firemen

New Haven, Conn.—At a special meeting of the Board of Fire Commissioners the following new schedule of pay of the employees of that department, which will take effect on January 1, was adopted by unanimous vote:

Captains—First year of service, third grade, \$3.40 per day; second year of service, second grade, \$3.60 per day; third year of service, first grade, \$3.75 per day.

Lieutenants—First year of service, second grade, \$3.10 per day; second year of service, first grade, \$3.25 per day; engineers, \$3.50 per day; assistant engineers, \$3.25 per day.

Hose and Ladder Men—First year of service, third grade, \$2.50 per day; second year of service, second grade, \$2.75 per day; third year of service, first grade, \$3 per day; linemen, \$3.25 per day; batterymen, \$3 per day; substitutes, \$2.40 per day.

#### May Limit Pressure Service

New York, N. Y.—In view of the blowing out of a valve in a high pressure main left exposed by the subway construction at Broome and Center streets, which caused an expensive delay in getting water on a recent fire on Grand street, it is asserted that the Department of Water Supply contemplates cutting out the high pressure service in all the mains which are exposed by the excavation work. This would mean a return for a time to the lower pressure service and the use of the fire engines in a considerable portion of the territory which has been using the new system.

#### Emergency Hospital at Police Station

Tacoma, Wash.—Chief of Police J. M. Duley in a communication to the Council has recommended that an emergency hospital, under the supervision of the police, be established. It is proposed to establish a ward with ambulance surgeons on hand who will be ready to answer any calls and give immediate attention to persons who are injured in accidents.

#### High Pressure Well For Fire Protection

Walla Walla, Wash.—In the presence of Manager A. J. Tourtelotte, of the Blalock Fruit Company, Mayor Eugene Tausick, Water Superintendent E. A. Knight and Fire Chief William Metz, a test of the old artesian well on the Blalock farm was made, and a pressure of 60 pounds to the square inch registered on the gauge. When turned through a fire hose with a one-inch nozzle, connected with a six-inch pipe, the stream was thrown more than a hundred feet, and when the nozzle was pointed upward, the point reached was higher than any building in the city.

#### GOVERNMENT AND FINANCE

##### City of Bedford "Broke"

Bedford, Ind.—The Finance Committee of the city has submitted to the Council a communication in which it is admitted that the city is "dead broke," and no more petitions for extension of water mains, electric street lighting or improvements will be considered. The city has not the money to supply such demands or make any further improvements. There is no revenue in sight to pay for additional street lights or water service, and an \$18,000 bond redemption issue is due February 1. No relief can be expected until after October, 1909, when there will be an increase in the tax levy.

#### Proposed Laws For Pennsylvania Cities

Harrisburg, Pa.—Important changes in the laws governing third-class cities in Pennsylvania will be asked of the next Legislature as a result of a recent conference of the Solicitors of New Castle, Lebanon, Reading, Chester, Bradford, Harrisburg, Allentown, Easton and York, in accordance with directions of the League of Third Class Cities in its recent convention at Altoona. Among the proposed bills which will be drafted will be: Extending State aid in construction of sewage plants when cities are required to build by the Department of Health; increasing the powers of Councils in giving franchises to public service corporations, giving them right to impose conditions and to initiate proceedings for revocation in event of abuse or failure to comply with ordinances; providing for local taxation of corporation property. Bills for underground wires, debt limitation and civil service were also discussed.

#### Commission Form of Government For Lynn

Lynn, Mass.—The Street Commission, which was appointed by the Mayor and Council last June, to investigate all city departments doing work on the streets of Lynn, and suggest improvements, has made its report. Many things were found deserving criticism, principally lack of cooperation and bad organization. One branch of city work was warmly praised, that of the stables and blacksmith shop. The report concludes with the statement that the Commission is thoroughly convinced that it is impossible to get the best results under the present form of city government. It is recommended that action be taken to obtain for the city of Lynn a new charter and a new form of government based on the Des Moines or Haverhill plan, consisting of a board of five members elected by the people.

#### New Way To Collect Poll Taxes

New Orleans, La.—Acting Commissioner of Public Works William Wild is sending copies of a letter to all the public schools, where they are to be distributed among the 30,000 children with the view of enhancing the poll tax collection for this year. The children are expected to bring the notices home and thereby awaken some of the delinquents to payment. Following is the letter, which has been addressed by the Poll Tax Committee of the School Board, to the patrons and friends of the public schools:

"The time for the payment of poll tax for the year 1908 will expire on the last day of this month. As the receipts from this source go directly to the support of the public schools, and as the payments to date are considerably less than previous years, every citizen having the interests of the school at heart is urgently requested to pay his poll tax without further delay."

#### Department of Supplies Has Saved Money

Philadelphia, Pa.—The report of Director Greer, of the Department of Supplies, shows that goods to the amount of \$2,236,827 were purchased. This central purchasing agency was established in 1904. It has effected considerable saving. For example in 1903, oats were purchased at 72½ cents a bushel; in 1907, at 45½ cents, the saving being \$32,429. In 1903 coal of the sizes of egg, stove and nut cost from \$8.40 5/16 to \$8.62 2/3 per gross ton. Last year egg cost \$5.56 and stove and nut \$5.82, making a saving of over \$30,000. And so with other supplies. Milk for which the housekeeper has been paying higher prices, and on which the inspection for city purposes has become more rigid, cost the city on an average in 1903, 6.43 cents a quart, and in 1907, only 4.9 cents, a saving of over \$12,000.

#### City Reduces Expense

Shreveport, La.—At a recent Council meeting thirteen members were chopped from the Police Department and three officers reduced to the ranks. An ordinance was filed providing for the abolition of the office of City Auditor, and having only a secretary, to be named by the Mayor. Both are for the purpose of lowering expenses.



### New York Has No Debt Margin

New York, N. Y.—The sub-committee of the Charter Revision Commission, after an examination of the finances of New York has reported to Governor Hughes that under the most favorable view that can be taken the margin left is only \$8,582,705. The committee, however, goes further and says that if the deductions provided for by the constitution from the city's assets are made the borrowing power of the city has been exhausted. The only remedy the committee sees is to go to work and collect arrears of taxes on real estate, personal property and special franchises and assessments for improvements, the whole amounting to \$85,730,066. In making their calculations the committee places authorized expenditures on the debit side of the ledger as soon as they are contracted. The committee mentions that there are about 25,000 actions for damages pending against the city, but that no provision has been made in striking the balance for judgments which may be obtained.

### Problem of Back Taxes

Utica, N. Y.—Assistant Corporation Counsel W. R. Lee has reported on a list of back tax accounts amounting to \$100,000. Of this sum about \$30,000 are for personal taxes many of which are outlawed and some uncollectible. About \$6,000 of the back taxes are against the State of New York, mostly for paving along the Erie Canal, for which State officials disclaim liability. The sum of \$306 is against the United States for paving and street cleaning about the Government building. The sum of \$55,000 is for unpaid taxes on real estate which the city has bid in and theoretically owns. No effort has been made to collect rent in these instances or enforce the title of the city. The report concludes with the recommendation that some immediate steps be taken to ascertain whether or not the present laws need amending and if so to prepare the proper bill for the Legislature.

### REFUSE COLLECTION AND DISPOSAL

#### Mayor Advocates Burning Garbage

Hoboken, N. J.—On a recent trip South, Mayor George H. Steil stopped at Norfolk and was very favorably impressed with the method of burning garbage in operation there. The Mayor will probably recommend incineration in his annual message to Council.

#### Louisville Board Issues Street Cleaning Bulletin

Louisville, Ky.—The Board of Public Works has issued a statement to the public in regard to street cleaning. During this year every street in Louisville has been cleaned at least once, as have also four-fifths of the alleys. Streets between Broadway and the river and First and Sixth streets have been cleaned daily. Other important streets have been cleaned once or more each week. The following figures show the extreme cost per mile of cleaning for streets of thirty-six-foot carriageway: Asphalt, \$16; brick, \$35.10; granite, \$37.15; macadam, \$72.25. The department is now having the square yardage of the different streets ascertained and a system arranged by which in future the statistics will be compiled to show the cost of cleaning per square yard. The equipment employed by the Street Cleaning Department is as follows: Thirteen machine brooms, five water flushers, one squeegee machine and four sprinkling wagons. Four machine brooms and one sprinkling wagon will sweep eight miles of average-width streets per day of nine hours. All things considered, this is the department's favorite method of cleaning. The five flushers will flush about 60,000 square yards in nine hours. The squeegee machine, which is a combination sprinkler and rubber roller scraper, will clean an area of 42,000 square yards in a day of nine hours. The squeegee is undoubtedly the cheapest and most desirable method of cleaning asphalt streets if those streets were all level and smooth. In the central portion of the city the hand-patrol system of cleaning was adopted for the first time, with results so satisfactory that it will be extended next year.

### Ash Districts Planned for Detroit

Detroit, Mich.—Alderman Harpfer, Chairman of the Ordinance Committee, who is now wrestling with the ash ordinance, has decided to consult Corporation Counsel Hally on the legality of establishing collection districts in various parts of the city, and omitting other parts from such sections. "It is one means of solving the problem," said Harpfer this morning. "If we can district the city for the Watson ordinance, why not for the ash ordinance? Then the downtown wards can have receptacles and collections by the D. P. W., and the outlying districts can abide under the old plan of dumping their ashes in the alleys."

### RAPID TRANSIT

#### Loss on Municipal Traction

Cleveland, O.—A deficit of \$29,547 for the month of October was shown by the financial statement filed in the United States Circuit Court by the receivers of the Municipal Traction Company and the Cleveland Railway Company. The expenses were \$407,601 and the gross receipts \$378,054. While the report was filed by the receivers it was, however, prepared by the Municipal Traction Company, which has been operating the railway property upon a 3-cent fare basis. The property is owned by the Cleveland Railway Company and was under lease to the Municipal. In its original figures the Municipal showed a deficit of only a little over \$7,000, but the receivers caused \$22,000 attorneys fees to be added. The receivers took charge November 12. Their report for the month ending December 22 will soon be out. A greater deficit is expected, as the receivers have greatly increased the expenses by bettering the service. It is then probable that the court will order a raise in the rate of fare.

#### To Improve Subway Service

New York, N. Y.—To do away with the congestion in the subway between 96th and 103d streets, the Interborough Company some time ago drew up plans for two extra tracks between those points. The old rapid transit commission approved, and the money was appropriated by the board of estimate. Of the \$800,000 thus appropriated there has been spent about \$70,000, but for the last month practically all work on the improvement has been stopped. It was explained by the officials of the Interborough Company that as a result of experiments with a new signalling system there might be no need of the extra tracks. This system, it was explained by General Manager Hedley of the Interborough, is known as the speed control signalling system. The signalling devices now used in the subway do not permit an express train to enter a block until it has been cleared by the train ahead. The "speed control," however, allows a rear train to enter a closed block, but only at a reduced speed, and if this speed should be exceeded the electric motive power of the train is automatically cut off.

#### Council Asks State Commission to Investigate Car Service

Troy, N. Y.—Owing to frequent complaints of overcrowding and irregular service on the lines of the Troy division of the United Traction Company's lines, Council has passed a resolution requesting the State Public Service Commission to detail an inspector to investigate the conditions and take such action as the public interests require.

#### Notifies Trolley Company of Unsafe Bridges

Warwick, R. I.—The taxpayers of Warwick at a financial town meeting instructed the Town Clerk to notify the Rhode Island Company that the iron bridges in the town of Warwick between the Cranston town line and the East Greenwich town line and between Rocky Point and Riverpoint are of insufficient strength to carry freight and express cars, and that the company is forbidden to run freight and express cars across any of the bridges until such time as the bridges shall be replaced by stronger structures. The clerk was also instructed to notify the company to discontinue running any cars, loaded or unloaded, over the Natick bridge until further notice.

### Municipal Street Cars Please

Yazoo City, Miss.—The first day's use of Yazoo City's new municipal street railway made such a good showing that the Board of Aldermen decided not to lease, as was expected, but to run it under municipal management. To that end they employed a manager and chief motorman. The system is up-to-date in every respect and the service is excellent. The South Yazoo Investment Company came before the Town Council with a proposition which will extend the street railway one mile south of the city. The investment company proposed to build one-half mile of street, cutting away an embankment that has heretofore barred all travel that way; build the mile of railway and donate to the city a twenty-acre park, beautifully located and covered with native trees, all for \$4,000. The city promptly accepted the proposition.

### City Ferry Loss \$1,026,272

New York, N. Y.—Dock Commissioner Spooner and Auditor Phelan of the dock department testified before the joint legislative committee that in 1907 the city had lost \$1,026,272 by running its municipal ferries. The department's net earnings in 1907, exclusive of the ferry expenses, were \$1,121,092, so that the large revenue it used to return to the city had been cut down almost to nothing.

### Give Transfers or Stop Cars, Is Order

Yonkers, N. Y.—The Yonkers Board of Aldermen has passed an ordinance directing that if Leslie Sutherland, receiver of the Yonkers Railroad Company, desires to continue the lines now running he must provide transfers for a 5-cent fare good all over Westchester County and the Bronx. This action came about through the Board of Aldermen some time ago directing that, because franchises had been violated, action be brought to collect a \$50,000 bond and to annul the franchises. Subsequently the receiver offered a 5-cent fare to the subway and Bedford Park elevated stations from Yonkers if certain provisions in the franchises were modified. His proposition was twice rejected. Judge Morschauer advised the receiver a week ago, if the Aldermen did not rescind their action, to discontinue the lines.

## MISCELLANEOUS

### Would License Plumbers

Leavenworth, Kan.—The City Commissioners are considering an ordinance requiring all master and journeymen plumbers to be examined as to competency before a board of competent examiners. The fee for master plumbers is \$5 and for journeymen \$2. The license secured is good for two years. The plumber is held responsible for his work for one year after its completion. The leading plumbers in the city are greatly in favor of this ordinance which can only work injury on incompetent workmen. It means the protection not only of the people but of the best plumbers.

### Will Investigate Its Harbor Possibilities

Lynn, Mass.—Through its municipal Committee on Harbor Development the city of Lynn has concluded negotiations with S. J. Joiner, of the Atlantic, Pacific and Gulf Construction and Dredging Company to make a complete and comprehensive study of Lynn harbor and its possibilities as a modern commercial port. Engineer Joiner's study will deal with all phases of harbor development, including the location of sewer mains, extension of streets that now or may extend to the harbor's edge, the location, erection and cost of wharves, reclamation of flats, location of street car lines, and in fact every feature that has been suggested to him or that may come to his attention while he is at work there. This report will be complete in every detail, and furnish the city a plan by which it will be possible to enter upon a systematic development of the harbor.

### Municipal Gravel Pit Is Profitable

Manitowoc, Wis.—Municipal ownership has been demonstrated a success by the city in operation of a gravel pit. The pit was purchased in 1905 for \$2,200 and about \$800 was expended in improvement and operation and revenues have exceeded the expenses in the three years according to a report of the street commissioner, but the report advises that this practice be abandoned and that the city retain the gravel for its own use.

### Can't Consume Smoke From Brick Kilns

Louisville, Ky.—Smoke Inspector, T. Z. McCann, states that after careful, thorough investigation, he could find no form of patent stoker or smoke consumer that could be applied or attached to boilers used for heating brick kilns. He said that the same conditions were found to exist in other large cities like Chicago, Milwaukee and St. Louis, and included a letter from an authority in Milwaukee to the effect that brick-making concerns in that city experienced the same difficulty.

### New Civil Service Rule

Schenectady, N. Y.—The State Civil Service Commission has notified the Municipal Civil Service Commission that hereafter the Chief of Police and the Chief Engineer of the Fire Department will have to be selected from the first and second lower grades of the departments, respectively. A resolution by the local Commission favoring this was recently sent to the State Commission by Secretary Brown, of the local body. Albany, Troy and Yonkers will come under the same provision.

### Weights and Measures Ordinance Signed

St. Paul, Minn.—Mayor D. W. Lawler has signed the ordinance providing for a sealer of weights and measures, whose duty it shall be to see that scales and measuring devices in the city are accurate and that commodities as sold are in full measure and weight. Under the provisions of the ordinance the deputy market master, who is appointed sealer, is to receive \$83 per month, while a fee of \$1 is to be paid him for all convictions secured. The ordinance, which is very sweeping and provides for the regulation of scales from counter apparatus to street scales, goes into effect immediately after publication, although firms using scales will have two months respite before they will be liable for the penalty provided in the ordinance. By that time it is expected that the city will have been provided with a standard set of scales, and that other instruments will have been tested according to this standard. Following the test, if the scales have been found accurate, they will be sealed. The inspector at any time may stop a load of coal in the street, order the driver to proceed to the nearest scales, where the load may be weighed to verify the amount sold. A load of wood may be stopped in the same manner. One of the most important provisions of the ordinance provides for the deputization of men in every establishment where scales and other instruments of measure are sold. Every butcher and coal man at each place of business is to allow one of his employees to be deputized as a representative of the sealer of weights and measures. This deputy is to be furnished with a proper bond, although he will serve the city without compensation. It is to be the duty of each deputy to return certificates of proper weight to the sealer of weights and measures.

### Curfew Rings Every Night

Van Buren, Ark.—Mayor Hays has revived the old curfew ordinance that became a dead letter two or three years ago and has instructed the police to enforce its terms against every violator falling within age limits. The parents of boys and young men prohibited from being on the streets after 8.30 p. m. are co-operating with the city officials and the ordinance is now being more rigidly observed than at any time in the past.



## LEGAL NEWS

## Summary and Notes of Recent Decisions—Rulings of Municipal Interest

## ASSESSMENT PROCEEDINGS—AMENDMENT

**Barrett vs. City of Seattle.**—Where the notice of appeal from the confirmation by the City Council of a public improvement assessment described the proceedings appealed from with great particularity, and the city could not have been misled because the notice referred to the wrong condemnation ordinance, such notice was not fatally defective. Service on the City Clerk of notice of the filing of the transcript in the Superior Court, as required by Laws 1901, on appeal from the confirmation by the City Council of a public improvement assessment, is not jurisdictional, and is waived by the general appearance of the city's counsel. Where the City Clerk's certificate to the transcript on appeal from the confirmation by the City Council of a public improvement assessment is not brought up in the record on appeal to the Supreme Court, its sufficiency cannot be determined. A defect in the City Clerk's certificate to the transcript on appeal from the confirmation by the City Council of a public improvement assessment may be cured by amendment.—Supreme Court of Washington.

## IMPROVEMENT ASSESSMENT—VALID OBJECTION

**Seattle and Puget Sound Packing Co. vs. City of Seattle et al.**—Objections to the regularity of proceedings of a City Council assessing property for a local improvement which do not go to the jurisdiction of the Council are waived by a failure to appear and object to the assessment at the time and in the manner prescribed by statute, but objections going to the jurisdiction of the Council are not waived thereby, and hence the objection that exempt property has been assessed may be raised at any time and in any appropriate manner. Where a judgment in condemnation proceedings determined that certain property was damaged in excess of special benefits arising from the proposed improvement, the city in subsequently assessing such property for the improvement exceeded its jurisdiction, and the owner, though failing to comply with Laws 1901, by objecting to the assessment roll prior to its confirmation, could sue to cancel the assessment.—Supreme Court of Washington.

## MARKET REGULATIONS—HUCKSTERS

**Dutton et al. vs. Mayor and Aldermen of Knoxville.**—Under Knoxville City Charter, giving the city power to regulate the inspection of provisions, to restrain and punish forestalling and regrating of provisions, and to establish and regulate markets, the city had power to prevent the unlawful raising of prices of produce through forestalling by passing an ordinance prohibiting the hawking from wagons of fruit, vegetables or poultry by others than those raising their own produce. "Forestalling" consists of buying victuals on their way to market before they reach it, with intent to sell again at a higher price. "Regrating" is the buying of corn or other dead victual in any market and selling it again in the same market. The ordinance was not invalid for unlawful discrimination, since those prohibited from selling belonged to a distinct class from those permitted to sell, the first being those who would violate the law by forestalling and regrating the market, and the others producers of provisions who would sell direct to consumers. The ordinance was not inoperative because the State and county had granted hucksters licenses to those prohibited from hawking in the city, since the licenses would not authorize the licensees to violate a city ordinance.—Supreme Court of Tennessee.

## CHAPLAIN NOT CITY OFFICER

**Blum vs. City of New York.**—A visiting chaplain in the Department of Public Charities, whose duty was to visit Jewish patients and administer religious consolation, was a mere employee of the Department, not an officer of the city, and hence not disqualified from also serving as chaplain of city hospitals, under the Greater New York charter, providing that no person shall hold two city or county offices except as expressly permitted by the act.—Supreme Court of New York.

## REGULATING POOL ROOMS

**City of Corinth vs. Crittenden.**—Pool and billiard rooms are within the police power of a State, and keeping such rooms can be considered a lawful business only so long as the Legislature makes it so, and only in such places as the law allows it.—Supreme Court of Mississippi.

## EIGHT-HOUR LABOR LAW

**People ex rel. Williams Engineering and Contracting Company vs. Metz, Comptroller.**—The Constitution requires the Legislature to provide for the organization of cities and restrict their power of taxation, etc., and of contracting debts, and by concurrent resolutions of the Legislature that section was amended, the amendment becoming effective January 1, 1906, so as to permit the Legislature to regulate and fix the wages, hours of work, and provide for the protection and welfare of persons employed by any city, town, etc., of the State, or by any contractor, doing work for the State, or any city, town, etc. Prior to the amendment the labor law, limiting the hours of work on work done by or for municipal corporations, had been declared unconstitutional, and after the amendment, Laws of 1906, after referring to the prior statute and reciting that it had been declared unconstitutional, re-enacted that section, and made eight hours a legal day's work for all employees except those engaged in farm or domestic service, but permitted an agreement for overwork at increased compensation, except for work done by or for municipal corporations and by contractors therewith, and required each contract with a municipal corporation to stipulate that no laborer, etc., in the employ of the contractor should be permitted or required to work more than eight hours a day, except in emergencies, and that it should be void unless the statute was obeyed, and prohibited any officer of the State or of the municipal corporation to pay for any work done in violation of the statute. Held, that the Legislature had power to enact the statute limiting the hours of labor on work done for cities, and prohibiting any State or municipal officer from paying for work done in violation of the statute.—Court of Appeals of New York.

## TAXATION—ALTERATION OF ASSESSMENT

**Town of Union, in Hudson County vs. Hudson County Board of Taxation.**—The action of the County Board of Taxation in increasing or decreasing the assessed value of property, which in their judgment is not truly valued, as authorized by the statute of 1906, is not reviewable on certiorari unless the Board violates some legal principle in adjusting the value of real estate subject to taxation.—Supreme Court of New Jersey.

## ASSESSMENTS—WAIVER OF OBJECTIONS

**Walsh vs. Mayor, etc., of City of Newark et al.**—When a public improvement is made without notice, actual or constructive, to the owner of land specially benefited thereby, of the intention to make such improvement, he cannot be assessed for special benefits, unless by some act he has waived his legal right to a hearing. Where the proceedings of the municipal authorities plainly indicate that the improvement is intended to be made at public expense, and no assessment for special benefits is contemplated, the fact that the land owner stood by and saw the improvement being made is no waiver of his right to be heard or to notice of the contemplated improvement, if he is to be assessed for benefits; for, under such circumstances, the municipality would be estopped from charging laches.—Supreme Court of New Jersey.

## POLICE OFFICERS—DISCHARGE

**Freas vs. City of Cape May.**—In order to entitle a police officer to the benefit of the tenure of office act of 1899 he must have been employed as a regular member of the police force, and one appointed under the second proviso of section 1 of that act, in cases of emergency or for parts of a year, may be discharged without having charges preferred against him or a hearing thereon.—Supreme Court of New Jersey.

## CONDUCT OF POLICE OFFICER

**Winters vs. Board of Police Commissioners of Jersey City.**—It will not be presumed that a rule of a Police Department promulgated under the police tenure of office act, providing that "each member in his conduct and deportment must be quiet, civil and orderly," applies to the conduct of a member when excused from duty or to his deportment in private life. To have such effect, the rule should clearly express such purpose.—Supreme Court of New Jersey.

## REGULATING SKATING RINKS

**Johnson vs. Town of Philadelphia.**—An ordinance requiring skating rinks to be closed at 6 o'clock p. m. and remain closed until 6 o'clock a. m. is not a reasonable exercise of the power conferred on municipalities by the Code of 1906, to regulate, suppress and impose a privilege tax on skating rinks, etc., and is void.—Supreme Court of Mississippi.

## NEWS OF THE SOCIETIES

**Boston Society of Engineers.**—At a meeting, December 16, Prof. C. M. Spofford, of Brooklyn; F. H. Fay and J. C. Moses discussed the history and recent reconstruction of the Boylston street bridge. After stating that four Boston bridges were in urgent need of repairs, Mr. Fay said: "Without question the present method of examining Boston bridges is superficial and entirely inadequate. To climb up a ladder and peek at the girders between trains won't show whether they are safe or not. An appalling catastrophe was not averted in the case of the Boylston street bridge by any foresight. Why one of those big cars didn't tumble through onto the railroad tracks it is hard to say. To test the condition of a bridge the planking ought to be ripped up and the metal work hammered. The old Boylston street bridge lasted 19 years. It was built for horse cars. The increasing tonnage kept pounding the old bridge from above while locomotive fumes and gases corroded the metal underneath. The present structure will probably last 50 years."

**Louisiana Engineering Society.**—The society held its regular meeting December 15 in the Hibernia Bank Building, New Orleans. C. W. Wood occupied the chair, and the following officers were present: L. C. Datz, secretary; James C. Haugh, treasurer, and many directors and members. The first business in order was taking a vote on the motion to advance money to the State Board of Engineering Examiners, and the motion was carried, and a liberal appropriation will be available. John Klorer, a member of the society, read a very interesting paper on the water hyacinth problem. The following officers were elected: John T. Eastwood, president; John Reiss, vice-president; L. C. Datz, secretary; James C. Haugh, treasurer, and J. T. Eastwood, C. W. Wood, James C. Maugh, John Reiss, Marcel Garsaud, J. W. Lawes and J. W. Armstrong. J. F. Coleman was unanimously elected chairman of the banquet committee, to be held in January, with leave to appoint associates.

**City Club of New York.**—There was a symposium on the city debt at the City Club, December 21, at which Chairman Ivins, of the Charter Revision Commission, made the principal address. He reviewed the financial condition of the city, its assessed valuation and its debts, and said that the next few years would be critical ones for the city. People wanted less taxes and more improvements—an impossible condition. The transportation question might be settled by the granting of limited term franchises under conditions that would attract private capital. Besides, it may be necessary to raise the tax rate.

**South Carolina Good Roads Association.**—At a meeting to be held in Columbia, January 19, the plan to establish a State Highway Commission will be taken up and action urged on the Legislature. Another proposition, toward which the legislators may be less complaisant, is that municipal corporations having street improvements in contemplation be empowered to assess abutting property for a part or the whole of the cost of the improvements. In the past five or six years the municipal administrations in such cities as Rock Hill, Anderson, Greenville, Spartanburg and Sumter have felt at times that such a measure would be highly desirable.

**Pacific Coast Health Association.**—Preliminary steps have been taken by the officers of the California State Board of Health and the city Board of Health of San Francisco for the organization of all the health officers of all municipalities of the Coast States into one association, which will probably be styled the Board of Health Association of the Pacific Coast. The movement had its inception with the State Board of Health, and so strongly were the city authorities impressed with the benefits to be gained by a closer linking of their interests with those of neighboring civic corporations that they designated Dr. Richard Broderick to cooperate with Dr. N. K. Foster, of the State Board, in enlisting the officials of other cities. Drs. Foster and Broderick have gone to Portland to begin the campaign, and before they have finished the health authorities of each jurisdiction from Seattle on the north to San Diego on the south will have been approached on the matter. At some later date to be designated a meeting for formal organization will be held, probably in San Francisco. The conference was held in the new quarters of the city Board on Seventh street, opposite the Post Office building. Members of the State Board who are championing the movement are: Dr. Martin Regansburger, president, of San Francisco; Dr. Wallace A. Briggs, vice-president, Sacramento; Dr. N. K. Foster, secretary, Sacramento; Dr. W. Le Moyne Wills, Los Angeles; Dr. O. Stansbury, Chico; Dr. F. K. Ainsworth, San Francisco, and Dr. A. C. Hart, Sacramento. The object of the organization will be to secure closer conformity of methods in all matters relating to the enforcement of sanitary and health laws, systematic dissemination of information of common interest and ultimately the formation of such a close alliance that concerted action in times of emergency will be possible.

**Civic League of San Francisco, Cal.**—The committee on supervision of public improvements and expenditures of the Civic League of San Francisco has established a bureau of inspection, with offices in the Monadnock Building, its primary object being the inspection of all municipal work under the recent bond issue, authorized at the special election, May 11, 1908, together with the careful scrutiny of expenditures therefor. The bureau has been in full operation since November 1, with a force of inspectors, accountants and clerks, and in this short space of time has evolved a system by which a perfect check is being kept on the work as installed and the auditing of all accounts for moneys paid out. A report of the bureau states that their activity has not only increased the efficiency of the regular inspection by municipal employees to a marked degree, but also has been effective, inasmuch as contractors have evinced a disposition to adhere more closely to the stipulations of their agreements than heretofore.

**Economic Club of Manchester, N. H.**—Government of cities by Commission vs. government of cities by Boards of Mayor and Aldermen was discussed by ex-Mayor Josiah Quincy, of Boston; ex-Mayor C. Neal Barney, of Lynn, and John S. Hodgson, of England, at the banquet of the Manchester Economic Club, held at the Riverside Inn, Hooksett. Vice-President George P. Crafts presided. Mr. Barney spoke in favor of Commissions and Mr. Quincy and Mr. Hodgson in opposition.

**City Club of Cincinnati, O.**—It was decided by the joint committee of various civic organizations, at a meeting in the office of Engineer E. F. Layman, Blymyer Building, to immediately petition Governor Harris to include in his message to the special session of the Legislature next month a recommendation for legislation under which municipalities may provide themselves better sewerage facilities. Delegates from the City Club, Federated Improvement Associations, Business Men's Club, Associated Organizations and Academy of Medicine were present, and the action was unanimous. Dr. Clark W. Davis, John R. Schindel and E. F. Layman were appointed a special committee to draft a bill covering the points sought and to secure its introduction by a member of the Hamilton County delegation.

**Rochester Engineering Society.**—The society has elected the following officers for the coming year: President, Prof. Allen S. Crocker; vice-presidents, Irving E. Matthews and John W. Vickery; secretary, John F. Skinner; treasurer, W. J. Stewart.

## Calendar of Meetings

- January 6.**  
**American Society of Civil Engineers.**—Regular semi-monthly meeting, Society House, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.
- January 11-16.**  
**National Association of Cement Users.**—Annual convention at Cleveland, O.—Secretary, Geo. C. Wright, Harrison Bldg., Philadelphia, Pa.
- January 12-15.**  
**Michigan Engineering Society.**—Annual convention, Ann Arbor, Mich.—Alba L. Holmes, Secretary, 574 Wealthy avenue, Grand Rapids, Mich.
- January 13-14.**  
**Iowa Brick and Tile Association.**—Annual Convention, Mason City, Ia.—C. B. Platt, Secretary.
- January 13-14.**  
**Iowa Engineering Society.**—Meeting, Waterloo, Ia.—A. H. Ford, Secretary, Iowa City, Ia.
- January 14-16.**  
**Indiana Engineering Society.**—Annual convention, Indianapolis, Ind.—Charles Brossman, Secretary, Union Trust Building, Indianapolis, Ind.
- January 19.**  
**Wood Preservers' Association.**—Annual meeting, Chicago, Ill.—C. M. Berry, Secretary, Topeka, Kan.
- January 19.**  
**South Carolina Good Roads Association.**—Convention, Columbia, S. C.—Fingal C. Brach, Secretary, Columbia.
- January 19-21.**  
**American Society of Heating and Ventilating Engineers.**—Fifteenth annual meeting, Engineering Societies Building, 29 West Thirty-ninth street, New York, N. Y.—W. M. Mackay, Secretary, P. O. Box 1818, New York, N. Y.
- January 20.**  
**American Society of Civil Engineers.**—Annual meeting at Society House, 220 West Fifty-seventh street, New York.—Charles Warren Hunt, Secretary.
- January 26-28.**  
**Ohio Engineering Society.**—Annual convention, Columbus, O.—Paul Hansen, Secretary, Harrison Building, Columbus, O.
- January 27-29.**  
**Illinois Society of Engineers and Surveyors.**—Annual meeting, Chicago, Ill.—E. E. R. Tratman, Secretary, 1636 Monadnock Block, Chicago, Ill.
- January 28.**  
**Canadian Society of Civil Engineers.**—Annual meeting, Toronto, Ont.—C. H. McLeod, Secretary, 413 Dorchester street, W., Montreal, P. Q.
- February 1-6.**  
**National Brick Manufacturers' Association.**—Twenty-third Annual Convention, Rochester, N. Y.—Theo. A. Randall, Secretary, Indianapolis, Ind.
- June 8-12.**  
**American Water Works Association.**—Twenty-ninth annual convention, Milwaukee, Wis.—J. M. Diven, Secretary, 14 George St., Charleston, S. C.



## PERSONALS

BASSETT, G. R., Columbus, O., has been employed by the Board of Public Service as architectural draftsman for the proposed garbage disposal plant.

BOWNE, WILLIAM H., Brooklyn, N. Y., Chief Engineer of the Brooklyn Water Works Department, died December 18.

BROWN, JAMES S., Mayor of Nashville, Tenn., was the guest of honor at the tenth annual ball of the Firemen's Benefit Association, and commended the firemen in a speech, after being introduced by Chief A. A. Rozetta. Members of the various companies were permitted to attend the entertainment in turn, so as not to interfere with the protection afforded property.

BURDICK, CHARLES B., who is associated with J. W. Alvord, of Chicago, Ill., who is supervising the construction of the filter plant at Evansville, Ind., recently visited the city to look over the progress of the work of the sub-contractors of the Norwood Engineering Company, the successful bidders.

COSBY, MAJOR SPENCER, Washington, D. C., Engineer in charge of the District of Columbia Water Supply, has been appointed Engineer Commissioner of the District of Columbia.

CULBERTSON, HUGH, Mayor of Milan, O., has resigned.

EDWARDS, WILLIAM, New York, N. Y., has been appointed by Mayor McClellan as Street Cleaning Commissioner, succeeding Foster Crowell, resigned.

GLOVER, JOHN J., Mayor of Olathe, Kan., died December 15.

HYER, W. K. JR., member of the Board of Bond Trustees of Pensacola, Fla., for the past four years, has declined to accept a reappointment recently made by Council, as he is to become President of the First National Bank of that city January 1, and feels that it will be impracticable for him to give the attention to the city work which it requires.

INGERSOLL, COLIN M., Chief Engineer of the Bridge Department of New York City, has resigned, and Kingsley L. Martin has been appointed to the vacancy. Mr. Ingersoll, at the request of the Mayor and Bridge Commissioner J. W. Stevenson, will remain in the Department as Consulting Engineer.

JOHNSON, EDWARD J., Spokane, Wash., announces that he has opened an office, 314 Lindelle Building, Spokane, Wash., for the practice of engineering. He is prepared to make surveys, plans, specifications and estimates for water works, sewer systems, roads and pavements.

KELSEY, LOUIS P., City Engineer of Salt Lake City, Utah, has had his salary increased fifty per cent., from \$2,400 to \$3,600 per annum.

MCCLURE, H. C., Jackson, Tex., has been elected Mayor, succeeding W. E. Fitzgerald, resigned.

MACFARLANE, WALLACE, New York City, has been appointed by Governor Charles E. Hughes to take testimony and hear the charges of alleged irregularities in the office of President Louis F. Haffen, of the Borough of the Bronx, New York City.

MAIN, CHARLES T., Boston, mill engineer and architect, has been appointed by the Council of the American Society of Mechanical Engineers as a member of the National Conservation Commission, with special reference to water powers.

MORRIS, MARSHALL, Consulting Engineer of Louisville, Ky., has been appointed Building Inspector for the city, succeeding Mr. John Chambers, who was promoted to City Engineer.

MORROW, MAJOR JAY J., U.S.A., Engineer Commissioner, District of Columbia, has been relieved from his present duty and assigned as Engineer Officer in charge of the water supply of the National Capital.

NORTON, Capt. GEORGE H., Assistant City Engineer of Buffalo, N. Y., has been appointed Deputy Engineer Commissioner of the Department of Public Works, effective January 1, succeeding Mr. Charles M. Morse, who has resigned. Captain Norton has been in the service of the city since 1888.

ROBINSON, V. B., Independence, Kan., Superintendent of the Water Works, has resigned and has been succeeded by Mr. H. A. Gallagher, who has had charge of the installation of the new filtration system.

ROBERTSON, JOHN D., Ocala, Fla., has been elected Mayor.

SEYMOUR, Captain JOHN F., San Francisco, Cal., has been offered the position of Chief of Police to succeed the late William K. Biggy. Captain Seymour is the head of the Wells Fargo Express Company's detective service.

SPEAR, WALTER E., Brooklyn, N. Y., who is at present Division Engineer of the New York City Board of Water Supply, in charge of ground water development on Long Island, has been appointed Chief Engineer of the Department of Water Supply, Gas and Electricity of Brooklyn. John W. McKay, who has been Acting Chief Engineer, will remain in the department.

SULLIVAN, A. J., Washington, D. C., First Battalion Chief of the Fire Department, was promoted to Deputy Chief Engineer, succeeding Frank J. Wagner, now Chief.

THOMAS, D. G., Denver, Col., has been appointed Chief Engineer of the Denver Union Water Company, succeeding Mr. George T. Prince.

WATERHOUSE, JOHN, North Adams, Mass., was elected Mayor by 76 votes over Marshall R. Ford and William G. Cady.

WHITE, J. F., South Jacksonville, Fla., has been elected Mayor.

WILLIAMS, FRANK M., Albany, N. Y., who will assume the duties of State Engineer of New York on January 1, has announced that Thomas M. Barally will be appointed Western Division Engineer of the Erie Canal, succeeding J. P. Kelly.

Mayors have been elected in Mississippi cities as follows:

Raymond, H. A. Casper.  
Laurel, A. W. Noble.  
Long Beach, Dr. Caraway.  
Ocean Springs, F. M. Weed.  
Prentiss, Oscar Grace.  
Meadville, L. A. Whittington.  
Terry, R. W. Hudson.  
Newton, J. J. Tatom.  
Moselle, W. W. Hood.  
Liberty, Dr. R. M. Butler.  
Magee, J. J. Childre.  
Loun, E. J. Anderson.  
Mize, J. D. Anderson.  
Collins, C. H. Ramsey.  
Sumner, A. L. Whitten.  
Utica, J. B. Collins.  
Picayune, H. D. Thames.  
Europa, J. G. Felton.  
Seminary, T. W. Cranford.  
Quitman, J. P. Adams.  
Tylertown, G. H. Collins.  
Lucedale, T. R. James.  
Waynesboro, W. T. Davis, Jr.  
Moss Point, George W. O'Neill.  
Hazlehurst, E. M. Cook.  
Pelahatchie, W. P. Ragan.  
Columbus, E. S. Donnell.  
Jackson, Arthur C. Crowder.  
Hattiesburg, J. B. Donald.  
Batesville, V. H. Ward.  
Eupora—J. G. Felton.  
Maben, A. J. Davis.  
Booneville, W. N. Bellamy.  
Brookhaven, F. H. Hoffman.  
Iuka, A. B. Patterson.  
Clarksdale, Henry J. Davis.  
Hernando, R. F. Johnston.  
Byhalia, A. Myers.  
Moorhead, A. E. Taggart.  
Pass Meridian, E. J. Adam.  
Taylorsville, J. T. Watlins.

## PATENT CLAIMS

906,000. **Squiglee.** Alfred S. Emerson, London, England. Serial No. 410,095.

The combination with an arched squiglee, of a conveyer for conveying away material from said squiglee, and means located in the arch of said squiglee for loading said material on to said conveyer.

906,034. **Sewer-Cleaning Apparatus.** John Kelly, Jamaica Plain, Mass. Serial No. 451,941.

An apparatus for cleaning sewers, having in combination a device adapted to be placed within a sewer manhole, said device being horizontally expansible, whereby the same may be adjusted to bear against horizontally opposite abutments, respectively, within said manhole adjacent to the sewer pipe orifices, a device adapted to be placed in the sewer pipe, and means operatively connecting said device, whereby said last-named device may be moved longitudinally within the sewer.

906,115. **Garbage-Crematory.** Miles L. Davis, Lancaster, Pa. Serial No. 415,038.

In a garbage crematory of the class described, comprising a firing chamber, a garbage drying chamber communicating therewith and situated in the rear of and extending into a higher plant than said firing chamber, a smoke-consuming chamber situated in the rear of and in a higher plane than said garbage chamber and communicating therewith and with the main flue of said crematory, angle irons formed with lugs embracing the corners of the outer walls of said crematory, plates set into the side walls of said crematory opposite the arches of said chambers, buckstays having their ends secured to said lugs and placed with their sides in contact with said plates and the sides of said walls, for the purpose of binding said walls together and retaining said plates, upright braces having their lower ends embedded in the ground and their upper ends secured to the top of said walls.

906,320. **Water-Storage System for use in extinguishing fires.** Lewis H. Sondheim, New York, N. Y. Serial No. 316,985.

In a system of water storage for fire-extinguishing purposes, the combination with a water supply, of a closed tank or reservoir provided with a closable air vent entering said reservoir at or near its top, a valve-controlled connection with said supply, a closable outlet for the withdrawal of water from the reservoir, the closures of said outlet and air vent and the valves controlling the connection with the supply being accessible from the public street and arranged adjacent to each other to be operated from one point.

907,136. **Packing for Pipe-Joints.** William S. Farrington and Almeron H. Van Denburg, Syracuse, N. Y. Serial No. 304,391.

A packing for pipe joints comprising a flexible elongated element provided with a plurality of pockets, portions of the means forming the pockets being soluble in water, and a dry cement filling within the pockets, substantially as and for the purpose specified.

907,149. **Prepayment Electricity-Meter.** George Hookham and Sydney H. Holden, Birmingham, England. Serial No. 444,204.

In a prepayment meter employing coin freed checks, in combination means operated by said checks, controlling the prepaid supply, said means including a check carrying portion and contacts in the supply circuit, a receptacle adapted to receive said checks, an escapement between said controlling means and said receptacle, and means for returning said checks from said receptacle to said controlling means.

907,284. **Concrete-Mixer.** Evan B. Raven-croft, Mishawaka, Ind. Serial No. 437,037.

In a mixer of the character described, the combination with a drum having reduced ends with tubular necks at their axial extremities, a tilting frame including ball-races with balls surrounding said necks, said races being interchangeable at opposite ends of the frame and each having screw-threaded holes, and means for rotating the drum on its axis; of a hopper having a funnel-shaped body and a reduced end extending loosely into one of said necks, ears projecting radially from the funnel, and screws taking through said ears into certain of said screw-threaded holes and holding the funnel interchangeably on either race.

907,329. **Device for Determining the Depths and Fixing the Grades of Trenches.** James J. Fusco, Montclair, N. J. Serial No. 442,309.

A device for determining the depth and fixing the grade of a trench comprising a grade-board, a grade-stake slidably connected with said grade-board for the adjustment thereof, means for securing said grade-stake in its adjusted position, and line-receiving loops upon the ends of the grade-stake for the arrangement therein of a grade-line.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage  
Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation  
Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

### BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREET IMPROVEMENTS.</b>				
Pennsylvania	Uniontown	Dec. 31	Constructing 1,095 ft. of road in Fayette City, Fayette Co.	State Highway, Dept., Harrisburg.
Pennsylvania	Chambersburg	Dec. 31	Constructing 12,100 ft. of road in Montgomery township	State Highway Dept., Harrisburg.
Indiana	Kokomo	Dec. 31, 2 p.m.	Bldg. 15,829 ft. gravel road in Howard and Liberty twps.	Wm. L. Benson, County Auditor.
Missouri	Kansas City	Dec. 31, 11 a.m.	Grading, macadamizing, etc., 3 1-2 miles Levasy and Oak Gr. rd.	Harry P. Koehler, Co. Hwy. Eng.
Indiana	Delphi	Dec. 31, noon	Bldg. gravel road in Carrollton and one in Franklin twp.	M. G. Haun, County Auditor.
Kansas	Junction City	Jan. 1, 3 p.m.	Bldg. 4-ft. cement walks on W. 4th St.	John G. Pease, City Clerk.
Tennessee	Humboldt	Jan. 1, 3 p.m.	Grading, graveling and guttering various streets.	N. A. Senter, Mayor.
Kansas	Abilene	Jan. 1	Constructing 1 mile of concrete curb and gutter.	J. A. Graves, City Clerk.
Indiana	Griffith	Jan. 2, 7:30 p.m.	Constructing cement sidewalks; 3 contracts.	L. A. Southworth, Pres. Town Trus.
Michigan	Mt. Pleasant	Jan. 4, 8 p.m.	Brick, asphalt or macadam paving, curb and gutter, 2 streets	Augustus Borden, City Clerk.
Indiana	Rushville	Jan. 4, 2 p.m.	Crushed stone paving, grading, etc., 2 miles of road.	Albert L. Winship, County Auditor.
Indiana	Crawfordsville	Jan. 4, 10 a.m.	Constructing Hamm gravel road in Brown twp.	B. B. Engle, County Auditor.
Indiana	Tipton	Jan. 4, 10 a.m.	Constructing 26,465 ft. 4 gravel roads, 4 townships.	County Commissioners.
Indiana	Greenfield	Jan. 4, 2 p.m.	Constructing, etc., highways; 5 contracts.	Chas. H. Troy, County Auditor.
Indiana	Columbus	Jan. 4, 10 a.m.	Constructing 13,164 ft. gravel road in Harrison twp.	John M. Davis, County Auditor.
Oklahoma	Muskogee	Jan. 4	Natural Lake asphalt paving, curbing, etc., 7th St.	Morgan Caraway, City Clerk.
Indiana	Terre Haute	Jan. 4, 11 a.m.	Bldg. stone road in Honey Creek township.	N. G. Wallace, County Auditor.
Mississippi	Natchez	Jan. 4	Bldg. road from Vernon Smith's to Meadville road, 1-2 mile.	Adams County Commissioners.
Indiana	Danville	Jan. 4, 10 a.m.	Bldg. gravel road 5,363 ft. and one 11,524 ft. long.	W. H. Nichols, County Auditor.
Indiana	Williamsport	Jan. 4, 10 a.m.	Constructing 10,685 ft. gravel road in Pine township.	R. L. Winks, County Auditor.
Indiana	Hartford City	Jan. 4, 2 p.m.	Bldg. 15,835 ft. gravel and 10,537 ft. macadam road.	L. W. Daugherty, County Auditor.
Ohio	Reading, Cin. P.O.	Jan. 4, noon	Bldg. concrete curb and gutter on Locust St. from Walnut to Mechanic.	D. S. Hosbrook, Village Engineer.
Indiana	Fowler	Jan. 4	Bldg. Wash. burn gravel rd., 3 miles long, \$12,900; McGahan, 2 miles, \$5,300.	Lemuel Shipman, County Auditor.
Florida	Miami	Jan. 5, 11:30 a.m.	Bldg. rock roads; also a rock-surface road.	Geo. B. Baker, Chm. Co. Com'rs.
Indiana	Brownstown	Jan. 5, 1 p.m.	Bldg. 3 gravel roads, total length 4 1-2 miles.	H. W. Wacker, County Auditor.
Indiana	Sullivan	Jan. 5, noon	Bldg. 4,350 stone road in Hamilton twp.	Ben. C. Crowder, County Auditor.
Indiana	Lebanon	Jan. 5, 1 p.m.	Constructing a gravel road.	B. F. Herdick, County Auditor.
Iowa	Davenport	Jan. 5, 2 p.m.	Paving portions of sundry streets.	Thomas Murray, City Engineer.
Indiana	Covington	Jan. 5, 1:30 p.m.	Constructing 12,006 ft. gravel road in Wabash township.	W. B. Gray, County Auditor.
Indiana	Tipton	Jan. 5, 2:30 p.m.	Constructing gravel road bet. Howard and Tipton Cos.	J. F. Barlow, County Auditor.
Indiana	Washington	Jan. 5, 2 p.m.	Constructing gravel roads.	Thos. Nugent, County Auditor.
Indiana	Vincennes	Jan. 5, 2 p.m.	Constructing 9,735 ft. gravel road in Washington township.	John T. Scott, County Auditor.
Indiana	Wabash	Jan. 5, 1:30 p.m.	Bldg. La Salle gravel road in Wabash township.	J. P. Nofztger, County Auditor.
W. Virginia	Charleston	Jan. 6, 2:30 p.m.	Paving 110,400 sq. yds.; curb 47,580 ft., etc., cost \$210,000.	W. A. Hogue, City Engineer.
Indiana	Madison	Jan. 6, 1 p.m.	Constructing 5.59 miles gravel road in Monroe township.	G. F. Grozier, County Auditor.
Indiana	Muncie	Jan. 6	Bldg. 2 crushed stone roads Delaware Center township.	Jos. E. Davis, County Auditor.
Pennsylvania	Pittsburg	Jan. 6, 10 a.m.	Paving, brick, Class A and blockstone, Class D, curbing, etc.	A. B. Shepherd, Act. Dir. Dept. P. W.
Mississippi	Vicksburg	Jan. 7	Bldg. road from city limits to Nat'l Mil. Park.	J. D. Laughlin, Clk. Warren Co.
Indiana	Peru	Jan. 7, noon	Bldg. gravel roads Nos. 1 to 10, eight in Clay township.	Chas. Griswold, County Auditor.
Maryland	Rockville	Jan. 12, noon	Improving Co. hwy., bet. Bradley Lane and Kensington.	Robt. G. Hilton, Clk. Co. Comrs.
New Jersey	Flemington	Jan. 14, 10 a.m.	Macadamizing 30,079 lin. ft. road at Pleasant Run.	John W. Sharp, Dir. Freeholders.
Ohio	Toledo	Jan. 15	Paving Hawley St.	Board of Public Service.
Ohio	Cleveland	Jan. 16, 11 a.m.	Grading, draining, etc., center road No. 2, in 2 townships.	A. B. Lea, County Surveyor.
Florida	Pensacola	Jan. 18, noon	Constructing 634,000 sq. ft. concrete sidewalk.	L. Earle Thornton, City Engr.
Illinois	Naperville	Jan. 18, 3 p.m.	Macadamizing, grading, curbing, etc., sundry streets.	P. E. Kroehler, Pres. Bd. Local Imp.
British Columbia	No. Vancouver	Jan. 25	Road machinery, as follows: Comp. steam 10-ton road roller with scraper; hand truck for fuel oil and tool tender for roller; water cart with dis. pipe and suction hose; traveling van and two 4-ton traction wagons; portable stone breaker, etc., inc. elec. motors, etc.; air compressor; rock drills, etc.	Alex. Philip, Clk. Municipal Council.
Washington	Olympia	Feb. 1, 5 p.m.	Brick or crec. wood block paving, 6,000 sq. yds.; begin May 1.	J. R. Dever, City Clerk.
Wisconsin	Appleton	Feb. 1, 5 p.m.	Wood block paving on concrete, portion Washington St.	E. L. Williams, City Clerk.
<b>WATER SUPPLY</b>				
Texas	Rosebud	Jan. 1	Excavating 25,000 cu. yds. dirt from water works reservoir.	S. J. Ward, Mayor.
Ontario	Oakville	Dec. 31	Laying 1,000 ft. c. i. intake pipe in Lake Ontario.	A. S. Chisholm, Chm. Bd. W. & Lt. Bd.
Kansas	Wichita	Jan. 1	Constructing water works.	R. N. Dow, City Clerk.
Florida	Daytona	Jan. 1	Constructing water works for city.	D. D. & C. M. Rogers, Engineers.
Wisconsin	Richland Center	Jan. 1	Improvements to water works, to cost \$7,000.	W. G. Kirchoffer, Madison, Engr.
Kentucky	Louisville	Jan. 2	Erecting 63 fire hydrants; cost, \$7,800.	John Chambers, Ch. Engr., D. P. W.
Pennsylvania	Munhall	Jan. 4, 5 p.m.	Laying 2,530 ft. 6-in., and 1,560 ft. 8-in. water mains; furn. and setting 32 fire plugs.	H. I. Maclay, Sec'y Boro Council.
California	Los Angeles	Jan. 4	Furn. hori. 6-cylinder duplex, double-act. condens. steam pump, 65-h. p. multi-cylinder distillate engine; single-acting cross-head guided triplex power pump.	John J. Fay, Jr., Pres. Water Comrs.
Kansas	Wichita	Jan. 4	Constructing water works system.	R. N. Dorr, City Clerk.
Ohio	Minerva	Jan. 4	Water tank and tower of 100,000 U. S. gals. capacity.	L. E. Weber, Sec'y Bd. Pub. Affairs.
New York	Pt. Wood	Jan. 4	Furn. and installing 6-in. valve and water meter.	Quartermaster.
Florida	Palmetto	Jan. 5	Erecting 100 ft. tower, laying mains, etc.; \$15,000 voted.	E. F. Wilson, Mayor.
Florida	Leesburg	Jan. 5, 7:30 p.m.	Water works and electric lighting plant; city will give 5-year contract, carrying with it 30-year franchise; will pay \$2,000 per year for public service.	L. M. Johnson, City Clerk.
Minnesota	E. Grand Forks	Jan. 5	Furn. and install. pumping plant in city water works.	C. P. Zimmerman, City Clerk.
Oklahoma	Clinton	Jan. 5	Extending distributing system 40 blocks.	J. L. O'Hearn, City Engineer.
Pennsylvania	Pittsburg	Jan. 6, 10 a.m.	Remodeling laboratory at Herron Hill pump station.	Geo. W. Guthrie, Mayor.
Colorado	Holly	Jan. 6	Furn. machinery for w.w., sep. bids for; gen. and switchboard, deep well pump and motor; underwriter pump and boiler feed pumps; 125-h. p. auto. high-speed engine; steam boilers, stack and heat, all f.o.b. cars Holly; also erecting above inc. foundations, etc., ready for operation.	N. F. Vidal, Town Clerk.
New York	New York	Jan. 7, 11 a.m.	Bldg. north half Walkill pressure tunnel under Walkill River and valley, inc. 3 shafts 350 to 480 ft., concrete conduit, etc.; contracts Nos. 36 and 37; old bids in Dec. 23 issue, rejected.	J. Waldo Smith, Ch. Engr., Bd. W. S.
Utah	Salt Lake City	Jan. 8	Constructing pipe line in 19th Ward Irrigation Dist.	Louis C. Kelsey, City Engineer.
Indiana	Connersville	Jan. 12, 7:30 p.m.	Constructing and leasing to city, additions and improvements to water works for 10 or 25 years; bond, \$100,000.	Jacob S. Clouds, City Clerk.
Georgia	East Point	Jan. 19	Constructing \$85,000 water works and electric light plant.	S. M. McConnell, Clerk of Council.
Iowa	Denison	Feb. 1	Boring artesian well, 12-in. at surface, 4-in. or more at bottom; 2,000 ft. deep, if necessary.	M. D. Wright, Chm. Water Com.
Arkansas	Osceola	Feb. 1	Constructing \$25,000 water works.	S. L. Gladish, Mayor.
Manitoba	Winnipeg	Feb. 22, 11 a.m.	Furn. and erecting turbine pump with elec. motor for w. w.	H. N. Ruttan, City Engineer.
<b>SEWERAGE</b>				
New York	New York	Dec. 30, 2 p.m.	Furn. 100 c. i. manhole heads, 500 covers, 200 basin covers, 200 heads and plates, 50 corner and 250 side flat basin grate bars, 50 corner and 200 side herring-bone grate bars, 200 wrought iron manhole step irons.	John F. Ahearn, Pres. Boro. Manh.
Nebraska	South Omaha	Dec. 31, 8 p.m.	Furn. 1,000 ft. each of 12, 15, 18 and 24-in. standard and 12, 18 and 24-in. double-strength sewer pipe, during 1909.	John J. Gillin, City Clerk.



Massachusetts.	Lynn.	Dec.	31, 5 p.m.	Furn. and install. cent. pumps with elec. motors for sewer sys.	Chas. H. Baker, Chm. Bd. Pub. Wks.
New Jersey.	Elizabeth.	Jan.	1, 8:30 p.m.	Mat. and labor for 640 ft. 10-in. pipe, caulked joints; 46 6-in. circ. 46 1-8-in. turns, 328 ft. 6-in. pipe to curb.	N. K. Thompson, St. Com'r.
Kansas.	Horton.	Jan.	1.	Bldg. extension to main sewer in Sewer Dist. No. 1.	W. B. Hazen, St. Joseph, M. J., Engr.
Oregon.	The Dalles.	Jan.	4.	Bldg. Kelly Ave. and B. St., also G St. sewer.	City Clerk.
Rhode Island.	Providence.	Jan.	4, 11 a.m.	Furn. 5,400 ft. 15-in., 18,000 ft. 12-in., 2,000 ft. 8-in., 12,000 ft. 6-in. straight pipe; 1,200 ft. 15 x 6 in., 4,500 ft. 12 x 6-in. branch pipes, etc.; 2,500 6-in. and 200 8-in. covers, inlets, etc.	Walter F. Slade, Com'r Pub. Wks.
Pennsylvania.	Wilkesburg.	Jan.	4, 3 p.m.	Bldg. 420 ft. 15-in. storm sewer and 70 sq. yds vit. brick on conc.	Frease & Sperling, Boro. Eng'rs.
Pennsylvania.	Pittsburg.	Jan.	6, 10:30 a.m.	Bldg. sewer in Middletown road.	Geo. W. Guthrie, Mayor.
West Virginia.	Charleston.	Jan.	6, 2:30 p.m.	Constructing 7,340 ft. 8 to 42-in. sewer, etc., cost, \$30,000.	W. A. Hogue, City Engineer.
Indiana.	Winchester.	Jan.	6, 7:30 p.m.	Constructing lateral sewer.	S. D. Fox, County Clerk.
Pennsylvania.	Erie.	Jan.	7, noon.	Constructing a sewer.	B. E. Briggs, City Engineer.
Ohio.	Cincinnati.	Jan.	8, noon.	Bldg. 2 concrete arches and rein. concrete box culvert.	Stanley Strubble, Pres. Co. Comrs.
Indiana.	Valparaiso.	Jan.	8.	Constructing a sewer.	Guy Stinchfield, City Engineer.
Ohio.	East Cleveland.	Jan.	9, noon.	Bldg. 24-in. circular culverts in certain parts of village.	Kline F. Leet, Village Clerk.
Indiana.	Delphi.	Jan.	9.	Constructing a drain in Jefferson township.	J. D. Hartman, care of Hanna & Hall.
Pennsylvania.	Polk.	Jan.	13, 2 p.m.	Bldg. sewers and disposal plant, State Inst. for Feeble Minded.	State Dept. of Health, Harrisburg.
Pennsylvania.	Danville.	Jan.	14, noon.	Bldg. new san. sewer system for St. Hosp. for Insane, inc. 7,500 ft. 8 to 15-in. t. c. pipe, etc.; also disposal plant, inc. circ. sed. tanks, filters, 12-in. c. i. force main and electrically-driven and auto-controlled centrifugal sewage pump, etc.	
Ontario.	Toronto.	Jan.	15.	Bldg. Sec. 3, high-level interceptor, inc. 6,385 ft. 7 1-2 to 8 1-2 ft. circ. sewer, manholes, etc.; bids by registered post only.	Dr. H. B. Meredith, Supt. St. Hosp.
Illinois.	Naperville.	Jan.	18, 3 p.m.	Pipe sewers, inlets, manholes, etc., in various streets.	C. H. Rust, City Engineer.
Georgia.	East Point.	Jan.	19.	Constructing 12 miles of sewers; dig. two 6 or 8-in. wells.	P. E. Kroehler, Pres. Bd. Local Imp.
Kansas.	Herington.	Feb.	1.	Constructing sewers and sewage disposal plant; cost, \$50,000.	J. C. McKenzie, Mayor.
					Burns & McDonnell, Kan. City, Mo.

## BRIDGES

Kansas.	Pittsburg.	Dec.	31, noon.	Stone abutment, fill., etc., at West Cow Creek.	Fred. Opperman, Trus. Baker twp.
Indiana.	Indianapolis.	Jan.	1.	Bldg. 2-span, 7-centered concrete steel arch bridge, with 40-foot roadway and 2 8-foot walks.	County Commissioners.
Mississippi.	Handsboro.	Jan.	1, noon.	Erecting steel draw-bridge over Bayou Bernard.	City Clerk.
Nebraska.	Fairbury.	Jan.	1.	Yearly bridge contract for Jefferson County.	F. A. Houston, County Clerk.
Oregon.	Newport.	Jan.	1.	Rebldg. Elk City bridge over Big Elk Riv.; bidders furn. plans.	Lincoln County Court.
Iowa.	Creston.	Jan.	4, noon.	Constructing all bridges ordered by County in 1909.	W. F. Craig, Auditor Union Co.
Ohio.	Sandusky.	Jan.	4, 2 p.m.	Entire new floor system for Hillsburg joint Co. bridge.	Charles Kubach, County Auditor.
Mississippi.	Natchez.	Jan.	4.	Bldg. concrete arch bridge at Bansley Bayou, Liberty road.	Adams County Commissioners.
California.	Stockton.	Jan.	5, 10 a.m.	Bldg. 2 steel draw span bridges, one 90 ft. and other 249 ft. with 60-ft. approach, span and steel tubes for foundation.	Board of County Supervisors.
New York.	Rochester.	Jan.	5, noon.	Bldg. lift bridge over Erie Canal at Allen St.	F. C. Stevens, Supt. Pub. Wks., Albany.
Indiana.	Valparaiso.	Jan.	5, noon.	Constructing bridge in Portage township.	Stephen P. Corboy, County Auditor.
New York.	Fairport.	Jan.	5, noon.	Bldg. sub. superstructure and approaches to bridge over Canal.	F. C. Stevens, Supt. Pub. Wks., Albany.
Mississippi.	Grenada.	Jan.	5.	Constructing iron bridge, one span, 125 ft. long.	City Clerk.
Oklahoma.	Lawton.	Jan.	5.	Bldg. steel bridge with 100-ft. steel span, 14-ft. rdwy., four 24-ft. steel tubes; three 14-ft. steel piles, three 12-ft. steel piles and six 8-ft. steel piles.	I. M. Haynes, County Clerk.
Missouri.	Albany.	Jan.	5.	Bldg. six 24-ft. I-beams on steel legs; 70-foot span on tubes.	W. A. Henton, County Surveyor.
Montana.	Granite Falls.	Jan.	6.	Bldg. steel bridge, 50-ft. span, 16 ft. wide, 12 ft. high.	S. O. Tjosvold, County Auditor.
Montana.	Dillon.	Jan.	6.	Bldg. one all-steel, except floor, low-span bridge over Redrock River, at Crabtree.	County Commissioners.
South Dakota.	Aberdeen.	Jan.	7, 2 p.m.	Bldg. steel bridges; also taking one down and erecting on new site.	John C. Daly, County Auditor.
Ohio.	Cincinnati.	Jan.	8, noon.	Constructing bridges and culverts for County.	Fred. Dreihls, County Clerk.
Utah.	Salt Lake City.	Jan.	8, 8 p.m.	Bldg. steel or concrete hwy. bridge, Jordan Riv., No. Temple St.	Louis C. Kelsey, City Engineer.
Oklahoma.	Sulphur.	Jan.	9, 2 p.m.	Bldg. steel bridge over Rock Creek in Platt Nat'l Park.	A. R. Greene, Supt. Platt Nat'l Park.
Ohio.	Newark.	Jan.	11, noon.	Bldg. superstructures of two bridges.	J. N. Wright, County Auditor.
Minnesota.	Minneapolis.	Jan.	11, 11 a.m.	Repairs to bridge No. 1, Hennepin County.	Hugh R. Scott, County Auditor.
Nebraska.	Geneva.	Jan.	12.	Furn. mat. and bldg. all County bridges, all kinds, for year.	Uriah F. Stanard, Co. Clk.
Georgia.	Augusta.	Jan.	12, noon.	Mat. and labor for steel bridge with draw span complete, except piers, inc. 8 spans, total length 928 ft.; cost, \$45,000.	Nisbet Wingfield, City Engineer.
Indiana.	Rensselaer.	Jan.	12.	Constructing bridge over Kankakee River.	I. H. Leatherman, County Auditor.
Nebraska.	Kearney.	Jan.	13, noon.	Bldg. all bridges and bridge repair work during 1909.	E. A. Miller, Clk. Bd. Co. Superv.
Nebraska.	York.	Jan.	13, noon.	Bldg. all steel and wooden bridges in York Co. during 1909.	W. A. Miller, County Clerk.
Nebraska.	Beaver City.	Jan.	13.	Bldg. all steel bridges that may be ordered in 1909.	Dan K. Morgan, County Clerk.
Arkansas.	Paris.	March	4.	Constructing 6 bridges for County.	Fred N. Cater, County Clerk.

## LIGHTING AND ELECTRICITY

Virginia.	Buena Vista.	Jan.	1.	Constructing \$20,000 electric light plant.	W. T. Paxton, Sec'y Rockbridge Power Co.
Connecticut.	Hartford.	Jan.	4, 11 a.m.	Lighting streets for 1 or 5 years from June 1, 1909.	Jas. P. Berry, Sec'y Bd. C. & S.
Virginia.	Fort Monroe.	Jan.	4, 10 a.m.	Complete underground system and complete system of street lighting; 5 different kinds of work, separate bids.	Capt. Ernest R. Tilton, Q. M.
Kentucky.	Frankfort.	Jan.	5, noon.	Electric light fixtures for new State Capitol.	Edw. M. Drane, Bd. State Can. Comr.
Ohio.	Painesville.	Jan.	5.	Purchase old machinery, etc., of old electric light plant.	W. N. Collister, Supt. Elec. Lt. Plant.
Florida.	Leesburg.	Jan.	5, 7:30 p.m.	Lighting and water works plant; city will give 5-year contract, carrying 30-year franchise; will pay \$2,000 per year service.	I. M. Johnson, City Clerk.
Virginia.	Highland Park.	Jan.	6.	Ten-year franchise for bldg. system and furn. elec. lt. and power.	W. P. Redd, 1114 Main St., Richmond.
Ohio.	Portsmouth.	Jan.	7, noon.	Lighting sts., pub. places, etc., any medium, 3, 6 or 10 years.	M. W. McMahon, Clk. Bd. Pub. Serv.
Minnesota.	Mahnomen.	Jan.	9, 8 a.m.	Installing an electric lighting plant.	A. O. Vachon, Village Recorder.
Minnesota.	Albany.	Jan.	11, 8 p.m.	Furn. mat. and installing electric or acetylene gas system.	Thos. Tomasek, Village Recorder.
California.	Napa.	Jan.	12.	Franchise for farmers' line from Napa into Lake County.	N. W. Collins, County Clerk.
Texas.	Port Worth.	Jan.	15.	Furn. arc and other lights for city.	Lee Stephens, Com'r of Lights.
Georgia.	East Point.	Jan.	19.	Furn. and erecting 100 kw. ac. generator, dir. cur. 200 rev. per min., 25 arc lamps and regulators, pole lines, switchboards, all instruments, etc.	E. H. Davis Griffin, Engineer.
California.	Ontario.	Feb.	2.	Gas franchise for light, heat, etc., for 50-year period.	R. O. Brackenridge Town Clerk.
Florida.	White Springs.	Feb.	10.	Bldg. \$3,000,000 power plant for Suwanee Riv. R.R. & Pow. Co.	D. G. Ziegler & Co., Jacksonville, Fla.

## MISCELLANEOUS

New York.	New York.	Dec.	30, 2 p.m.	Furn. 3,500 ft. best 2 1-2-in. rubber hose in 50-ft. lengths, etc.	John F. Ahearn, Pres. Boro. Manb.
Illinois.	Cairo.	Dec.	31, 5 p.m.	Removal of all garbage during 1909.	Ernest Nordman, City Comptroller.
Iowa.	Des Moines.	Jan.	4, 10 a.m.	Furn. 85-ft. rapid hoist aerial truck, roller bearing and rubber tires, with full equipment.	Geo. F. Poorman, City Clerk.
New York.	No. Tonawanda.	Jan.	4, 5 p.m.	Removal of garbage; bond, \$1,000.	I. H. Tillitson, Sec'y Bd. of Health.
Virginia.	Portsmouth.	Jan.	4, 8 p.m.	Furn. mat. and bldg. complete incin. or crematory, 25 tons.	Street Committee of Council.
Washington.	Tacoma.	Jan.	4.	75 positive, non-interfering, 4-round suc. fire alarm boxes, etc.	H. J. McGregor, Com. Pub. Wks.
Montana.	Missoula.	Jan.	4.	Furn. and del. f. o. b., city, 4 to 12 sprinkling wagons of various sizes and materials.	City Council.
Pennsylvania.	Butler.	Jan.	5, 7 p.m.	Plans and sketches and estimates of cost of municipal building.	Geo. Armbruster, Boro. Council.
Oklahoma.	Pawhuska.	Jan.	5.	Plans and specifications for \$100,000 County Court House.	County Clerk, Osage County.
Washington.	Seattle.	Jan.	5.	Erecting bldg. for Fire Dept.; 722 18th Ave.	Everett & Baker, Architects.
Illinois.	Cairo.	Jan.	5, 7 p.m.	Erecting 2-story brick bldg., Sta. No. 3, Fire Dept.	Ernest Nordman, City Comptroller.
New York.	New York.	Jan.	5.	Bldg. 3 horse sheds and 1 stable, Esopus Div. Catskill aqueduct.	Board of Water Supply.
New York.	Fort Slocum.	Jan.	6, 10 a.m.	Constructing garbage crematory at post.	Constructing Quartermaster.
Iowa.	West Union.	Jan.	6, 2 p.m.	Furn. 6 fool-proof cells, female and juvenile cell and 20 window gratings.	W. H. Walrath Chm. Co. Superv.
Michigan.	Ann Arbor.	Jan.	6.	Bldg. women's and insane annex to County jail.	Geo. Gerlach, Chm. B.1. Co. Supervs.
New York.	Brooklyn.	Jan.	7, noon.	Forn. and delivering pipe horse collars for Dept. Street Cleaning.	Wm. E. Edwards, Com'r St. Clean.
New York.	New York.	Jan.	12, noon.	Iron and wooden fencing at Jerome Park Reserv.; security, \$10,000.	John V. Cowan, Pres. Aqueduct Com.
Illinois.	Chicago.	Jan.	12, 4 p.m.	Bldg. field house in Union Park, inc. gym., shower baths, lavatories, lunch room, library, reading rooms, assembly hall, club rooms, etc., swimming pool, dressing rooms, etc.; cost, \$75,000.	Geo. A. Mugler, Sec'y West Pk. Com.
Missouri.	St. Louis.	Jan.	15.	Bldg. 2-story engine house, No. 37; cost, \$20,000.	A. J. O'Reilly, Pres. B.1. Pub. Impts.
Oregon.	Portland.	Jan.	15, 10 a.m.	Furn. 25,000 bbls. Portland cement, f. o. b. at works.	U. S. Reclamation Service.
British Col'bia.	Vancouver.	Jan.	18, 4 p.m.	Furn. and del. f. o. b., Vanc. auto hose wagon and auto. truck.	Wm. McQueen, City Clerk.
Massachusetts.	Boston.	Jan.	20, noon.	Erecting and operating plant for incinerating city waste.	Guv. C. Emerson, Surt. of Streets.
Oklahoma.	Claremore.	Feb.	1.	Erecting Court House and jail for Rogers County.	D. W. Lipe, County Clerk.

## STREET IMPROVEMENTS

**Mobile, Ala.**—The Board of Public Works has adopted plans for street improvements; cost, \$750,000; underground and covered canal drainage for northern and middle-western parts of city will be provided at a cost of \$500,000; Spring Hill avenue and Broad street will be paved with wood blocks; Wright Smith, Engineer, Mobile.

**Eldorado, Ark.**—Bids will be received immediately for the construction of about 12 miles of concrete sidewalks.

**Pensacola, Fla.**—The Board of Public Works has received petition for the improvement of Spring street between Gregory and La Rue streets; cost, \$400.—City Engineer J. E. Thornton.

**Calro, Ill.**—Council has received petitions for cement sidewalks on Thirty-sixth street, Sycamore and Washington streets.—R. W. Hatcher, City Clerk.

**Elgin, Ill.**—City Engineer Plum has prepared estimates for a continuous pavement from Chicago street to Dundee avenue and to North street; cost, \$73,000.

**Crown Point, Ind.**—The Surveyor of Lake County has completed his estimate for macadamizing Indiana boulevard.

**Indianapolis, Ind.**—The Board of Public Works has ordered the paving of Georgia street between Noble and Leota streets.

**Indianapolis, Ind.**—The Board of Public Works has received ordinances for improving Gladstone avenue from Washington and Michigan streets, and Georgia street from Noble to Leota streets, with asphalt roadways and curbs; ordinances have been passed for the improvement of Missouri street and the improvement of the roadway of North Meridian street from Forty-sixth to Fiftieth streets.

**Council Bluffs, Ia.**—Council is considering the paving of a portion of Broadway.

**Council Bluffs, Ia.**—Council has ordered sidewalks, curbing and gutters on Sixth street, avenue H and Oakland drive.—A. W. Casady, City Clerk.

**Davenport, Ia.**—Hugh Moeller, City Clerk, has plans for the following improvements: Ripley street, estimated cost \$10,006.55, brick; Sylvan avenue, estimated cost \$5,719.56, mineral rubber; Rushmore street, estimated cost \$2,315.20, asphalt; Warren street, estimated cost \$3,039.80, brick.

**Davenport, Ia.**—Mayor Geo. W. Scott has recommended that a lot more of grading be done; it is proposed to remove 2,116 cubic yards from Grant street; 5,063 cubic yards from Fair avenue; 734 cubic yards from High and Pleasant streets; 2,815 cubic yards from Rusholme; 1,320 from Le Claire, 1,580 from Lombard, 1,385 from Hewes court and 1,000 from Rock Island street; bids have been called for fifteen streets.

**Leavenworth, Kan.**—The Board of Commissioners has rejected all bids for the paving of Seventh street from Olive to Short street with Portland cement; estimate of City Engineer, \$1.59 per square yard, and bids were too high; new ordinance will be drawn calling for estimates on hydraulic cement mixed in the rates of one part cement, two parts sand and five parts rock; also the Portland mixed ratio of one part cement, three parts sand and six parts rock.

**Topeka, Kan.**—The Street and Walks Committee have recommended the paving of First street, Harrison avenue, Twelfth, Polk, Eleventh and Thirteenth streets.

**Topeka, Kan.**—The Streets and Walks Committee has granted petitions for paving Kansas and Morris avenues; West Tenth and Lincoln streets.—City Engineer Rogers.

**Louisville, Ky.**—The city will repair Clay street, reconstruct Breckinridge street and repair Mory, St. Catherine, Oak and Floyd streets.

**Baltimore, Md.**—Considerable paving will be done within the city limits; an appropriation of \$200,000 has been made in the tax budget and streets will be paved in nearly every ward.

**Salisbury, Md.**—The County Commissioners have rejected bids for grading and macadamizing Athol road a distance of about 1½ miles; A. M. Clark, County Road Engineer, will do the work.

**Boston, Mass.**—Council has referred ordinance appropriating \$70,000 for the improvement of Hyde Park avenue.

**Northampton, Mass.**—The Superintendent of Streets, J. L. Fowler, has recommended more tarvia road and granite pavement in King and Main streets and macadam on Prospect, Locust, Franklin, North Elm, Fruit and Florence streets in Leeds, and on the Laurel Park Road to the Hatfield line.

**Duluth, Minn.**—Petitions calling for the improvement of Sixth street, from Cascade Park to Woodland avenue, are being circulated; plan calls for 30 feet of roadway of tar macadam; 5-foot sidewalks and 8-foot grass plots.

**Virginia, Minn.**—City Engineer Johnson has made a report of the estimated cost of a temporary winter road from this city to

Gilbert; road can be established and put in condition for winter travel for about \$600; a permanent road, to be constructed of crushed rock, could be built for about \$10,000, and that of gravel for about \$8,000; proposed road will be about four miles in length and will terminate about the center of the village of Gilbert; Council has accepted the estimate and instructed the Street Commissioner to make the repairs as soon as possible, and also appropriated the sum of \$300 towards its construction; balance of about \$300 will be raised by a committee from the Commercial Club.

**Jackson, Miss.**—City has ordered the paving of one square on Gallatin street from Capitol to Pearl street.—Hamilton Johnson, City Engineer.

**Kansas City, Mo.**—The Board of Public Works has ordered the following improvements: Broadway and Locust street, artificial curbing; Mercies street, paving; Kenwood and Lawndale avenues, sidewalks, and Tracy avenue and Pitt street, paving.—R. W. Goodwin, Secretary.

**Atlantic City, N. J.**—Mayor Stoy has approved ordinances providing for an issue of \$40,000 bonds for paving and curbing.

**Elizabeth, N. J.**—Council is considering the paving of William street, from Madison avenue to Catherine street, with trap block pavement, on sand foundation.

**Gloucester City, N. J.**—City has voted \$100,000 bonds for continuing and finishing street improvements.

**Lakehurst, N. J.**—Ocean and Burlington County Officials are considering a proposed road from Brown's Mills to this city, which will connect both counties; a committee composed of Walter Borden, Edw. Longstreet and Harvey Borden has been appointed by the taxpayers of Ocean, Burlington and Monmouth counties to confer with Road Commissioner Gillyson regarding the proposed road from Chesterfield to New Egypt; W. C. Vanhise, Chas. Allen, Jos. Hoff, Harry Hagaman and John Miers have been appointed to get signers to a petition which will be presented to the Ocean County Board of Freeholders for the extension of the road from New Egypt to Lakewood; Commissioner Elmer Polhemus, of Monmouth, has announced that the next road built will be from Allentown to New Egypt.

**New Egypt, N. J.**—Surveyors have just completed plan for a new boulevard to extend from Mill street, New Egypt, along the west side of Oakford Lake, and to be called Lake avenue.

**Perth Amboy, N. J.**—Council has passed final reading on ordinance to work Hall avenue and to grade Lawton place and Laurie street.

**West New York, N. J.**—A petition is being circulated calling for the paving of Hudson avenue from the southerly to the northerly boundary line.

**Geneva, N. Y.**—City will sell its stone crushing plant as it has fallen into disuse.—J. V. Jones and E. S. Bowen, Commissioners.

**Port Jervis, N. Y.**—The Board of Freeholders of Sussex County has authorized the issuing of \$44,000 more of road improvement bonds, to mature in 30 years.

**Poughkeepsie, N. Y.**—City Engineer C. E. Fowler's plans are approved for the following paving work, which will be done during the coming spring: South Hamilton street, trap rock paving; Hooker avenue, trap rock paving; South avenue, vitrified brick paving.

**Troy, N. Y.**—Mayor Mann has signed ordinances providing for the paving of King street from Bridge avenue to Jacob street.

**Rockingham, N. C.**—Bids will be received Jan. 4 for \$15,000 good road bonds for Marks Creek Township.—B. F. Reynolds, Clerk County Commissioners.

**Grand Forks, N. D.**—City Engineer J. J. Smith has been directed to prepare plans and specifications for the paving of portions of North Fourth, North Fifth, Third, South Sixth and Fifth streets, International, Fourth, Reeves, Belmont and Eighth avenues.

**Akron, O.**—County Commissioners are considering \$20,000 bond issue for the construction of three and possibly four roads of macadam; one road will run from Macedonia to Hudson Village, distance 1 mile; one from West Market street to run a distance of 2 miles, and the third from Maple street to Copley, distance 1½ miles; cost, \$40,000.

**Barberton, O.**—Council has passed resolutions declaring the necessity for paving Baird avenue, Wooster road and Hunsberger avenue; Engineer Alcorn has submitted the following paving estimates: Cornell street, total cost, \$23,996.59; property owners' share, \$12,150.86; village's share, \$8,245.28; Northern Ohio Traction and Light Company's share, \$4,151.53; Baird avenue, total, \$2,352.94; village's share, \$283.03; Hunsberger avenue, total, \$2,926.55; village's share, \$1,305.13; Wooster road, total, \$85,168.66; village's share, \$9,838.57; Northern Ohio Traction and Light Com-

pany's share, \$5,692.46; all of the estimates are for slag and gravel base.

**Cincinnati, O.**—Council has ordered the extension of Worth street and Sauer avenue; also the grading of Burgoyne Alley and Housman Alley; also received petition for grading Emporia avenue.

**Cleveland, O.**—Council is considering elimination of grade crossings along the line of the Nickel Plate Railroad.

**Columbus, O.**—Representative-elect Owen J. Evans, of Stark County, is preparing a bill to introduce before the next Legislature appropriating between one and two million dollars for the improvement of the highways of the State.

**Dayton, O.**—Engineer Cellarius has estimated that the cost of opening Norwood avenue from Mound to Williams streets would be \$50,000.

**Hamilton, O.**—City Commissioner J. J. Moreau has been ordered to grade Garden avenue; the opening of South Twelfth, South Thirteenth and South Fourteenth streets is being urged.

**Toledo, O.**—The Commissioners of Wood County have awarded \$50,000 5 per cent. road bonds to Hoehler & Cummings, of this city.

**Youngstown, O.**—City has awarded \$2,000 bond issue for improvement of Andrews avenue to the Trustees of the Firemen's Pension Fund of this city for \$2,032.50 and \$8,230 sidewalk bonds to the Security Savings Bank and Trust Company of Toledo.

**Guthrie, Okla.**—The City Engineer has been directed to make proper profiles for paving Ash street, from Washington to Jefferson avenue.

**Holdenville, Okla.**—Council is considering an issue of \$40,000 for general street improvements and paving.

**Hubbard, Okla.**—Committee has been appointed to ascertain cost of paving to be done in the city.

**McAlester, Okla.**—City will build \$5,000 worth of sidewalk and charge the same to property owners that failed to obey the law; bids have been advertised for the grading, paving and curbing of Choctaw avenue.

**Sapulpa, Okla.**—Councilmen E. W. Blake, E. T. Staret and J. C. Manifee are securing data from various cities concerning paving; city will do two miles of paving this winter.

**Marshfield, Ore.**—City will expend \$50,000 in paving and \$15,000 in plank streets.

**Harrisburg, Pa.**—Council is undecided as to whether they ought to erect a municipal plant or pave the streets under contract.

**Harrisburg, Pa.**—Council is considering an ordinance for repairing asphalt streets to take the place of the Barber Company's contract which will soon expire; municipal asphalt plant is also urged.

**Harrisburg, Pa.**—Bids will be received December 30 for constructing 18,500 feet of State road in Hempfield Township and 5,400 feet in Penn Township, both in Westmoreland County; also until December 31 for constructing 12,100 feet in Montgomery Township, Franklin County, and 1,095 feet in Fayette County.—Jos. Hunter, State Highway Commissioner.

**Lebanon, Pa.**—The Highway Committee has recommended an appropriation of \$600 to grade and macadamize Fourth street.

**Mechanicsburg, Pa.**—City has voted a \$60,000 street improvement loan; eight blocks of Main street are among those to be improved.

**Pittsburg, Pa.**—Council has passed an ordinance authorizing the paving and curbing of Eldrege avenue from Nicholson street to Pocussett street.

**Pittsburg, Pa.**—Director Shepherd, of the Board of Public Works has recommended the paving of 46 streets in Pittsburg proper at a cost of \$229,200; and the repaving of 11 streets in the Northside at a cost of \$84,800; grand total, \$314,000; also \$38,500 for the maintenance of boardwalks and steps.

**Reading, Pa.**—Board of Public Works will ask an appropriation of \$15,000 to make asphalt repairs; the need of an asphalt plant is being urged.—E. W. Beard, City Engineer; C. H. Hunter, President, Board of Public Works.

**Scottdale, Pa.**—Council is considering several petitions for street paving.—Borough Council President A. P. Byrne.

**Scranton, Pa.**—The Barber Asphalt Company's ten-year contract for repairing the asphalt streets of the city will expire in January.

**York, Pa.**—City Engineer R. B. McKennon has estimated the paving before non-assessable property at \$24,435.17; Linden avenue would cost \$2,114.20; West Market street, \$3,083.64; Richland avenue, \$2,456.49; Princess street, \$3,296; Hartley street, \$1,552.36; East Market street, \$2,555.48; Queen street, \$4,462.24; College avenue, \$2,482.99.

**Knoxville, Tenn.**—Bids will be awarded immediately by the War Department for the building of the wall around the National Cemetery on Jackson street.—S. D. New-



ton, City Engineer; Chairman Flenniken of the Board of Public Works.

**Greeneville, Tenn.**—Citizens will vote January 3 on \$25,000 bond issue for street improvements.

**Nashville, Tenn.**—A committee from the Builders' Exchange, composed of R. T. Creighton, G. McIngram and Humphrey Hardeson, has appeared before the Board of Public Works to urge the construction of better sidewalks.

**McKenzie, Tenn.**—A petition has received numerous signatures favoring a bond issue for McKenzie for hard streets, lights and sewerage; Legislature will be asked to give the town the right to vote on a \$50,000 issuance of bonds.

**Hubbard, Tex.**—City has voted \$15,000 bonds for street improvements and sewers. —W. Q. Bowman, Mayor.

**Norfolk, Va.**—The Finance Committee has appropriated \$22,700 for the immediate improvement of Chapel street; also \$7,500 for the improvement of Lincoln street; the Public Improvement Committee approved a resolution offered by Councilman A. C. Omohundro for improvements in Omohundro avenue and the extension of Twelfth street to Princess Anne avenue; proposition will involve an expenditure of \$86,880.

**Norfolk, Va.**—The Board of Public Improvement is considering a plan looking toward the gradual and systematic improvement of all the streets of the city; a \$100,000 bond issue is urged.

**Bellingham, Wash.**—Champion street will be planked and not paved as has been reported.

**Hoquiam, Wash.**—The Joint Committee of Council and the Commercial Club are urging vitrified brick for paving and have recommended that Eighth and I streets be paved with such brick.

**Mount Vernon, Wash.**—Skagit County is considering purchase of a crushing outfit next season.

**Seattle, Wash.**—A. B. Ernst, of the Board of Park Commissioners, has requested early and favorable consideration of the bill to appropriate \$10,000 from the general fund for the extension of Stone avenue through Woodland Park. Chairman, Frederick Sawyer, Finance Committee.

**Seattle, Wash.**—King County is considering the purchase soon of a large stone crusher.

**Seattle, Wash.**—City surveyors from the City Engineers' Department are at work locating street centers in Rainier Beach; 1,000 feet along Duwamish River will be paved at once.

**Tacoma, Wash.**—Bids will soon be received for the building of two miles of macadam road, from the Puyallup River at the Indian School to the intersection of the Sumner and the Stuck valley road.

**Tacoma, Wash.**—Pierce and King County Commissioners are considering a macadam highway direct from Tacoma to Seattle; plans are almost completed, and it is expected to get the greater part of the work done in time for the Alaska-Yukon-Pacific Exposition next year; Pierce County will soon begin work on a \$50,000 stretch of macadam road extending from the Tacoma city limits toward the King County line.

**Racine, Wis.**—Council has ordered the improvement of Tenth and Eleventh streets by paving; also Junction avenue.

**Sparta, Wis.**—Council has voted \$5,000 bond issue for street improvements.

## BIDS RECEIVED AND CONTRACTS AWARDED

**Anniston, Ala.**—The contract for constructing several thousand yards of cement sidewalks has been awarded to J. S. Conniff & Co., of Montgomery, at 87½ cents per square yard.

**Pasadena, Cal.**—Resolution has passed awarding contract for work on Euclid and Magnolia avenues, Ohio and Maine streets, to E. L. Plantico, for \$3,850.

**Sacramento, Cal.**—Bids for grading and macadamizing the Upper Stockton road, from Agricultural Park to a point southeast of Galt, a distance of about 25 miles, were opened by the Board of Supervisors and referred to the Contract Committee, the Advisory Committee and the County Surveyor; the work has been laid off in three sections, and the bidders were as follows:

First section—Louis Moreing, Ransome Construction Company, Lotus & Layaz, Clark & Henery, Cotton Bros. Company and McGillivray Construction Company.

Second section—Cotton Bros. Company, Louis Moreing, Clark & Henery, Daniel & C. A. Bayless, Ransome Construction Company, Hanrahan & Ehrhart.

Third section—McGillivray Construction Company, Cotton Bros. Company, Clark & Henery, Ransome Construction Company, Louis Moreing, Hanrahan & Ehrhart.

**Denver, Col.**—The Denver and Pueblo Construction Company, 67 Railroad Bldg., has been awarded the contracts for the

curbing, grading and other improvement work in Capitol Hill improvement districts Nos. 5 and 6. The company was the lowest bidder in No. 6 at \$117,950 and in No. 5 at \$88,043; the districts extend from Sixth avenue to Fourteenth avenue and from Steele St. to Colorado boulevard; work will begin at once.—J. B. Hunter, City Engineer.

**Cairo, Ill.**—The Street Committee has recommended that the bid of Hanes & Son to construct sidewalks under the terms and specifications of Ordinance No. 175 for 15 cents per square foot; Ordinance No. 171 for 15 cents per square foot; Ordinance No. 161 for 13 cents per square foot, and Ordinances 173 and 172 for 13 cents per square foot each, be accepted, and contract was awarded to them by Council.

**Fort Wayne, Ind.**—The following bids were received by this city for repairs and patches on the nine streets, laid by the Alcatraz Asphalt Company in 1898 under a 10-year guarantee and they refused to make the final repairs; the city will make repair and bring suit; these nine streets were taken as a whole and grouped in localities near each other, so that the city could repair all or any group which it might see fit.

The Cleveland Trinidad Asphalt Company, of Cleveland, O., bid:

If 14,921 square yards, \$1.38 per square yard.				
" 6,625 " " " "	1.40	"	"	"
" 5,346 " " " "	1.40	"	"	"
" 1,279 " " " "	1.50	"	"	"
" 3,625 " " " "	1.45	"	"	"
" 3,000 " " " "	1.42	"	"	"

Resetting the curbing where necessary, 18 cents per linear foot (5x22-inch); this is for standard mixture; if a hot air blast is used they agree to do large patches for 95 cents per square yard and small patches that have to be cut out, \$1.50 per square yard.

The Frankfort Construction Company, of Frankfort, Ind., bid:

If 14,921 square yards, \$1.44 per square yard.				
" 6,625 " " " "	1.56	"	"	"
" 5,346 " " " "	1.59	"	"	"
" 1,279 " " " "	2.50	"	"	"
" 3,625 " " " "	2.25	"	"	"
" 3,000 " " " "	2.30	"	"	"

Resetting curbing where necessary, 10 cents per linear foot.—J. Frank Mungovan, City Clerk.

**Indianapolis, Ind.**—Bids were received by the Board of Public Works for the improvement of Alabama street with asphalt, estimated cost \$12,000, and Parker avenue with asphalt and brick gutter, estimated cost \$11,500, and the lowest bid received for both streets was that of the Marion County Construction Company, Indianapolis.

**Michigan City, Ind.**—The County Commissioners have awarded the contract to Jacob Ackerman at \$9,890 for the construction of the Frank Morrison macadam road.—Clyde Martin, Engineer in Charge.

**Des Moines, Ia.**—The J. W. Turner Improvement Company. Youngerman Block, has secured a contract for paving with brick about 11,438 square yards on a portion of Second avenue at \$25,000.

**Coffeyville, Kan.**—A. C. Sandon has been awarded the contract to put in the sidewalks recently advertised for by Council; the price bid was 5½ cents per square foot.

**Lexington, Ky.**—The city has awarded the contract to Carey & Reed, city, for paving South Ashland avenue with asphalt.—John Skain, Mayor.

**New Orleans, La.**—The Finance Committee received the following paving bids: Calliope street, from Rampart to Magnolia; the bidders were W. H. Douglass, John A. McCoy, American Development Company, W. J. Cumberford, the Etta Contracting Company, Limited, and C. Hyland & Co.; also same bidders for Calliope street from St. Charles avenue to Rampart street, both pieces of pavement being for small granite block; Clio street, from Prytanla to Dryades, with bitulithic; the Southern Bitulithic Company was the only bidder, the property owners having stipulated that material.

**Salisbury, Md.**—Bids were received by the County Commissioners for grading and macadamizing Athol road a distance of about 1½ miles, and it was decided to reject all bids and to do the work under the supervision of A. M. Clark, County Road Engineer.

**Haverhill, Mass.**—The members of the Street Committee have voted to purchase the Buffalo-Pitts steam road roller at a cost of \$3,500, even though a suit is already entered for the payment of \$3,200 for the gasoline machine; Councilman Foote and Mayor Wood have been firm in the belief that the committee bought the gasoline machine in good faith and acted in anything but good faith with Agent Railsback, representing the Austin-Western concern of Illinois; the new Municipal Council will probably try to undo as soon as installed these questionable acts of the Committee on Streets of 1908.

**Harrison, N. J.**—The Town Council has

awarded the contract to pave William street, from John to Fifth street, with bitulithic, to Van Keuren & Son; this firm's bid was the lowest of three, its figures being \$13,119; the other bidders were the Standard Bitulithic Company, the bid of which was \$13,713, and John F. Shanley, Jr., whose bid was \$13,273.

**Newton, N. J.**—The following bids were received by Sussex County Board of Freeholders for constructing a macadam road from Stanhope to Newton, about a distance of 10 miles; Geo. F. Snyder & Son, of Philadelphia, Pa., \$62,722 (awarded contract); VanKeuren & Son, of East Newark, \$86,999; David Harper, Newark, \$106,641; John Doriety & Son, Newark, \$80,688; B. M. Shanley Sons' Co., Newark, \$87,691.

**Salem, N. J.**—Bids were received by Road Committee, Board of Freeholders, for grading and surfacing with gravel the Barnsboro Turnpike, 3.31 miles in Township of Upper Pittsgrove as follows: Sutton & Corson, \$12,246; Robt. E. Hand, \$11,876; Tuft & Lloyd, \$12,900; J. S. Fitzer & Son, of Clayton, \$10,953 (awarded contract); John Quinlan, \$14,466; Geo. F. Snyder & Co., \$13,323, and Rickey & Swan Co., \$18,423.—J. F. Ayres, of Alloway, Director.

**Brooklyn, N. Y.**—M. F. Hickey, Sixth street and Second avenue, has secured the contract for regulating and repaving with granite on a concrete foundation Second avenue from Hamilton avenue to Sixth street, at the following bid: 10,520 square yards granite pavement, with tar and gravel joints, \$2.25; 600 square yards granite pavement, with tar and gravel joints, to be relaid, 65 cents; 100 square yards old stone pavement, relaid in approaches, etc., 30 cents; 1,890 cubic yards concrete, \$5; 3,970 linear feet new curb, set in concrete, 80 cents; 440 linear feet old curb, redressed, rejointed and reset in concrete, 50 cents; 2,180 square feet new granite bridgestones, 70 cents; total, \$39,549. Chas Cranford, Sixteenth street and Foster avenue, bid for this work \$42,690.

The following are the totals of bids received November 25 by Bird S. Coler, President Brooklyn Borough, for regulating and repaving with asphalt on concrete foundation: (a) Stockholm street from Bushwick avenue to Wyckoff avenue, (b) Walton street from Wallabout street to Broadway, (c) South Second street from Keap street to Marcy avenue and from Havemeyer street to Wythe avenue; Cranford Company, 190 Montague street, Brooklyn, (a) \$34,690 (awarded contract), (b) \$16,688 (awarded contract), (c) \$25,327; Uvalde Asphalt Paving Company, 1 Broadway, New York City, (a) \$36,093, (b) \$18,099, (c) \$26,484; Barber Asphalt Paving Company, 30 Church street, New York City, (a) \$34,997, (b) \$17,650, (c) \$25,619; Brooklyn Alcatraz Co., 407 Hamilton avenue, Brooklyn, (a) \$33,739, (b) \$17,814, (c) \$24,791 (awarded contract); Warren Asphalt Paving Company, 93 Federal street, Boston, Mass., (a) \$34,352, (b) \$17,203, (c) \$25,037.

All bids opened December 2 and 9 were rejected or withdrawn before opening and all bids advertised to be opened for paving on December 23 were withdrawn before date of opening.

**New York, N. Y.**—Bids were received December 15 by the Department of Docks and Ferries for furnishing labor and materials and repairing asphalt pavement on North and East Rivers, together with all work incidental thereto and the contract for Class 1 was awarded to the Sicilian Asphalt Paving Company, 41 Park Row, at \$36,000, and for Class 2 to the Uvalde Asphalt Paving Company, 1 Broadway, at \$35,720.

**Youngstown, O.**—The Directors of Public Service have granted two contracts; one for the grading of McKinley street was given to James Comiskey at his bid of \$592, and the other for the grading of Hoffman street was given to A. F. Scott, whose bid was \$1,038.

**Zanesville, O.**—The estimate of Adams Bros., of this city, on the paving of McIntire avenue proved to be the lowest of ten bids on the work, opened by the Board of Public Service, and they were awarded the contract. E. A. Patterson, of Columbus, submitted two bids, Townsend brick being mentioned in the higher and Harris brick in the lower. The complete list of bids was as follows: A. G. Pugh, Columbus, \$18,846.26; E. A. Patterson, Columbus, \$17,471.86; E. A. Patterson, Columbus, \$17,210.18; John S. Woodrow, city, \$17,157.66; T. M. Lynn, city, \$16,485.78; W. S. Gregg & Co., city, \$16,105.46; F. E. Brown, city, \$16,094.78; Petet & Abele, city, \$15,294.25; Dunzweiler Bros., city, \$13,917.52; Adams Bros., city, \$13,715.80.

**Oklahoma City, Okla.**—Contracts for the paving of F, Irving and Gibson streets have been let to the Cleveland Trinidad Company.

**Portland, Ore.**—The Pacific Bridge Company was awarded the contract by the Executive Board for bitulithic pavement on

Belmont street between East Fortieth and East Sixty-seventh streets, at \$86,000.

**Camp Hill, Pa.**—The committee on the proposed construction of a part of road in the western part of the borough reported in detail the estimates given by the two companies which were bidders for the work; the Terralithic Company bid \$13,626 and the Imperial Company \$11,877.50, but as the County and State each bear a portion of the cost the expense to the borough would only be \$1,703 and \$1,496 respectively; these prices are for the new dirt, oil and stone road, which is supposed to stand the wear much better than the Telford macadam; a resolution was passed authorizing the president of Council, the secretary and chief burgess to enter into a contract with the State Highway Department for the construction of the Imperial system of asphalt oil pavement upon Trindle road to Oyster Point avenue to Market street and on Market street to Lime Kiln lane, the borough to be protected by a three-year guarantee, backed by a State bond.

**Chester, Pa.**—There were two bidders for the contract to grade Wilson street and William E. Reilly was the successful one, being awarded the contract at his bid of 28 cents; John Hanna & Sons bid 30 cents a cubic yard.

**Scranton, Pa.**—R. C. Ruthven, Buffalo, N. Y., was low bidder and will be awarded contract by Director C. R. Acker, of the Board of Public Works, for paving, after a satisfactory investigation, for the following paving jobs: Green Ridge street, Webster avenue, Quincey avenue, Railroad, Seventh and Fourth avenues; the Dale & Gaynor's bid on the North Main avenue brick pave was \$2.22 per foot.

**Wilkes-Barre, Pa.**—Horn & Neff, of Slatington, submitted the low bid for constructing a macadam road 25,534 ft. in length, extending from Plymouth Boro line to Hancock Township line, at \$70,786. Bids opened by State Highway Commissioner, at Harrisburg.

**York, Pa.**—George F. Motter & Sons have been awarded the contract for the asphalt repair plant to be used in making repairs to the city street paving; the contract was awarded by Chairman Chase Brenner, of the Highway Committee, this firm's bid of \$145 being the lowest; there were only two bids, the other being submitted by A. Clinch, whose bid was \$170.

**Newberry, S. C.**—The Southern Construction Company, which is now laying vitrified brick in Newberry, has been awarded contract to extend the street paving in Caldwell street to the Post Office; under the original contract, the paving went only to the north side of Friend street.

**Houston, Tex.**—The city has awarded the contract to John C. Underwood, city, for paving San Jacinto, Preston and Dowling streets.—T. C. Tarver, Jr., City Engineer.

**Olympia, Wash.**—Bids were opened by the State Highway Board recently for the construction of State aid road No. 27, otherwise known as the North Trunk road in King county; the bids were as follows: L. H. Goerig, \$9,945; G. W. Wilson, \$9,995; Mills Bros., \$10,895; William Neilan & Co., \$12,000; John Kalberg, \$12,350; McQuaid & Moore, \$12,474.27; J. F. McQuaid, \$13,378; Ide & Jones, \$13,815; George A. Banderet, \$13,900; Ruth & Hartman, \$14,499; D. H. Traphagen, \$14,997; J. K. Mitchell, \$15,490; J. A. Bailey, \$15,868; Northwest Construction Company, \$17,000.

**Seattle, Wash.**—Emergency was declared for the Greenwood avenue extension work which consists of 2,651.15 feet of macadam; contract to Kerry & Stimson, \$4,701.13.

**Spokane, Wash.**—The following are the bids received by the Board of Public Works for street and sidewalk improvement: For grading, curbing and parking Cataldo avenue, from Howard street to Washington street, engineer's estimate, \$12,133; Foster & Hindle, \$15,000; Abbott & Joslin, \$12,990; Julia V. Costello, \$11,632; John Fife, \$11,544; Mitchell Bros., \$11,087; H. L. Lillenthal, \$10,340 (awarded contract).—J. C. Ralston, City Engineer.

**Tacoma, Wash.**—The Lister Construction Company has been given the contract for grading Pine street from South Thirty-fifth to Fortieth street, at \$5,019; the engineer's estimate was \$6,947.

But one bid was received for grading North Twenty-sixth street from section 36 to Proctor street, in District No. 633; the estimate for this work is \$2,996; Madison & Malgard offer to do the work for \$2,940.

For building a sidewalk on Park avenue from Thirty-eighth to Sixty-fourth street, in District No. 469, there are eight bids; Armstrong & Enevoldsen submitted the lowest bid, their proposal being \$7,470; the engineer's estimate is \$11,072.

The County Commissioner has awarded the contract for grading a road a mile and a half long on the north shore of Fox Island to F. A. Keasal, for \$4,930; other bidders were N. O. Robb, \$5,285; Thomas Huggins, \$6,009, and E. M. Moore, \$6,300.

**Sarnia, Ont., Can.**—The following bids

have been received by the Board of Public Works for paving Front street with creosote block, the prices given being for 3-in. block and 4-in. block respectively: F. Gutteridge, \$27,100 and \$32,262, U. S. block; A. Simpson, \$29,252, U. S. block; Forest City Paving Co., London, \$29,000 and \$33,679, U. S. block, and for C. C. block made in Toronto, \$25,445 and \$26,857; General Contracting Co., Toronto, \$26,110 and \$26,925, C. C. block; R. Corrick & Sons, \$27,686 and \$33,390; Ontario Paving & Construction Co., Sarnia, \$27,482 and \$32,250; Concrete Steel Construction Co., Cleveland, \$32,500 and \$37,644.

## SEWERAGE

**Clarendon, Ark.**—Council is considering the establishment of a sewerage system.

**North Pasadena, Cal.**—The Sewer Committee of the North Lincoln Avenue City and County Improvement Association has recommended a drain in Glen avenue to cost \$75,000.

**San Francisco, Cal.**—The Board of Supervisors will receive bids February 8 for \$800,000 sewer bonds.

**Canon City, Col.**—City is considering the construction of sewers.

**Denver, Col.**—Contracts for \$1,000,000 worth of sewers have been let and more have been planned; both branch and trunk sewers will be constructed and all will empty into the Platte River; plans and specifications have been prepared.—W. B. Lowry, President Board of Public Works.

**Las Animas, Col.**—City is considering the construction of a sewer system; 35,000 feet of sewer pipe will be needed; estimated cost, \$39,000.

**Oroville, Cal.**—A new sewer system is being discussed.

**Hartford, Conn.**—The Board of Commissioners has decided to advertise for bids for 1,050 feet of tile for sewer in Windsor street.

**New London, Conn.**—Engineer W. H. Richards has prepared a plan to carry a great part of the city's sewage out into the Sound; cost, \$15,000.

**Georgetown, Del.**—Because a town ordinance forbids running house waste water into the gutters, although there is no sewerage system in the town, Georgetown citizens have decided to make a strong plea to City Council to install such a system, and the first step will be a petition signed by most of the property owners in town.

**Clearwater, Fla.**—Citizens have voted \$15,000 bonds for sewer construction; sewers to be salt-glazed terra-cotta pipe.

**Tallahassee, Fla.**—City is considering the construction of a sanitary sewer system and water works; both systems will be prepared by J. B. McCrary & Co., Engineers, Atlanta, Ga.

**Cairo, Ill.**—Council has referred to Street Committee and the City Engineer resolution to change sewer on the west side of Sycamore street.—R. A. Hatcher, City Clerk.

**Mt. Morris, Ill.**—Plans are being prepared by J. A. Davidson, of Polo, for a sewerage system, embracing two separate districts of 16,000 and 18,000 feet; tile 6 to 12-inch diameter.

**Angolia, Ind.**—Town Board will receive bids for the construction of a complete sewerage system as soon as plans are completed; cost, \$85,000.

**Argos, Ind.**—Consulting Engineer Percy Throyer, Plymouth, Ind., will prepare plans for 2,000 feet of 24-inch pipe sewer for Argos.—D. L. Berlin, City Clerk.

**South Bend, Ind.**—The Board of Public Works has ordered plans and will soon receive bids for the construction of a sewer in Niles avenue, from Howard to Corby streets.—W. A. McIntyre, Chairman.

**Council Bluffs, Ia.**—Council has ordered a 10-inch sewer in Avenue H and 12-inch sewer in Eighth street.—A. W. Casaday, City Clerk.

**Davenport, Ia.**—Mayor G. W. Scott has recommended storm drains constructed on Harris street, Sylvan avenue and one beginning at Jersey Ridge road and Belle avenue.

**Kansas City, Kan.**—Council has passed an ordinance creating a sub-sewer district and also declaring it necessary to construct a pipe sewer.

**New Orleans, La.**—Bids will be received February 9 by the Sewerage and Water Board for \$4,000,000 public improvement bonds.

**Lake Pleasant, Mass.**—Town is considering construction of a sewerage system for the protection of the water supply of the Turner Falls Fire District.

**Monson, Mass.**—Surveys are being made for the construction of a sewerage system.—C. L. Peck, Town Clerk.

**St. Paul, Minn.**—The Board of Aldermen has passed a resolution authorizing the issue of \$150,000 sewer bonds to be used in the construction of main sewers.

**Carterville, Mo.**—The City Engineer has been instructed to prepare specifications

and estimate cost of constructing sewers in Districts No. 1 and 4.—H. E. Moody, City Clerk.

**St. Louis, Mo.**—Mayor Wells has signed ordinance authorizing Sewer Commissioner Tardwell to clean the bed of the River des Peres; \$10,000 has been appropriated.

**Albert Lea, Minn.**—City is considering the construction of a trunk sewer next spring; cost, \$25,000.—C. J. Dudley, City Clerk.

**Duluth, Minn.**—Plans will be prepared by City Engineer Thos. F. McGillivray for a sanitary sewer in West Third street, from Thirty-fourth to Thirty-ninth avenue.

**Minneapolis, Minn.**—A. B. Leash and E. H. Rollins & Sons, Chicago, have purchased the \$250,000 sewer bonds, paying a premium of \$7,675.

**Stillwater, Minn.**—City is considering the construction of sanitary sewers in various streets.—Geo. J. Arneson, Mayor.

**Missoula, Mont.**—Frank Keith, C. N. Maden and E. C. Reitz have been appointed a committee to ascertain the best method of securing a sewer system for the South Side.

**Manchester, N. H.**—Council is considering the installation of a sewer system in the Amoskeag section of the city.

**Atlantic City, N. J.**—Mayor Stoy has approved the ordinance providing \$100,000 bond issue for beginning work on the drainage canal.

**Atlantic Highlands, N. J.**—The County Board of Freeholders has granted permission to build a septic tank in the roadbed at the foot of First avenue for the sewage disposal plant; size of the tank is not to be over 100 feet long, 18 feet deep and 40 feet wide.

**Elizabeth, N. J.**—The Board of Aldermen has adopted on its third reading and final passage an ordinance for the issuing of \$225,000 worth of Elizabeth City bonds to pay for the river improvement scheme.

**Perth Amboy, N. J.**—Council has passed final reading on ordinance to build a 12-inch sewer in Kearney avenue.

**Buffalo, N. Y.**—Council has approved the ordinance ordering construction of sewers in Weimer street and Cambridge avenue.—H. J. Balliett, City Clerk.

**Middletown, N. Y.**—Council has authorized City Engineer L. H. Robinson to prepare plans for a sewer on Monhagen avenue; distance 1,550 ft.

**Rochester, N. Y.**—Council has ordered a sewer in Sylvester street to cost \$19,000; city is considering the connecting of the sewer in Lyell avenue across the canal while the new bridge is being constructed at that point.—Wm. Ward, City Clerk; City Engineer Fisher.

**Syracuse, N. Y.**—The Intercepting Sewer Board has submitted to Mayor Forbes plans for the proposed intercepting sewer; it will be built from Spencer street to Belden avenue along the creek, then in Belden avenue to Wallace street to West Genesee, to Franklin to South Clinton to West Onondaga, along the creek to Adams, and through Oneida, Tallman, Tremont and Blaine streets to Midland avenue, thence along the creek to South avenue; Board will soon be prepared to advertise the contract for this sewer; ultimately the outlet of the entire city sewerage system will be at a point on Hiawatha avenue, where it is proposed to have a disposal plant.

**Syracuse, N. Y.**—Council has declared its intention to make the following local improvements: Building a 12-inch pipe sewer in Banana street; a 15-inch pipe sewer in Ostrom avenue; a 15-inch pipe sewer in South Salina street; a 12-inch pipe sewer in Matson avenue from South Salina street to a point 300 feet east.

**Troy, N. Y.**—The Public Works Committee has recommended construction of a sewer in Cass street and also one in Lowe avenue.

**Watertown, N. Y.**—City Engineer Henry E. Baker has completed plans for a sewer system in the 3d and 4th wards; bids will soon be called for by the Board of Public Works.

**Barberton, O.**—Engineer Alcorn has submitted an estimate for a sanitary sewer on Wooster road from Mulberry street to the corporation limits, amounting to \$2,160.40.

**Canton, O.**—The Council has passed ordinance providing \$24,800 bond issue for constructing a storm water sewer on Liberty street from Saxton street to Nimishillen Creek.

**Cincinnati, O.**—The Board of Public Service has transmitted a resolution, which was referred, declaring it to be necessary to construct a sewer in Glenway avenue, from Considine avenue to the stone sewer 100 feet west of Austerlitz avenue; also in Austerlitz avenue, from Glenway avenue to a point 110 feet north of Warsaw avenue, and in Grand avenue, from Glenway avenue to Lehman road.

**Lancaster, O.**—The State Board of Health has approved plans for a new storm water sewer.

**Ney, O.**—The State Board of Health ha.



approved plans for the construction of a sewerage system.

**Piqua, O.**—The City Engineer has estimated that a sewer in Spring street, from Ash to High and High to Main street would cost \$447.

**Enid, Okla.**—Bids will be received after January 1 for a brick and vitrified pipe sanitary sewer; cost, \$25,000; also for a brick and concrete storm sewer; cost, \$125,000.—E. R. Lee, City Clerk; C. H. Sexton, City Engineer.

**Holdenville, Okla.**—Council is considering an issue of \$100,000 bonds for sewerage and water works system.

**Hubbard, Okla.**—Council has appointed Committee to ascertain cost of sewerage system.

**McAlester, Okla.**—An election will be held January 19 to vote on issuing bonds as follows: \$175,000 for storm and sanitary sewers and \$20,000 for water works extensions.—J. Phelan, City Engineer; J. M. Gannaway, City Clerk.

**Oklahoma, Okla.**—Bonds for a main sanitary sewer, cost \$125,000, will be voted on at the April election.—George Hess, City Clerk; W. C. Burke, City Engineer.

**Okmulgee, Okla.**—Council is reported to be discussing the expenditure of \$100,000 for sanitary and storm water sewers, water extensions and a City Hall.

**Shawnee, Okla.**—A 6 and 8-inch vitrified pipe sewer will be constructed at a cost of \$25,000.—F. D. Brown, of Shawnee, Engineer; A. D. Martin, City Clerk.

**Marshfield, Ore.**—City will expend \$55,000 in the construction of sewers.

**Danville, Pa.**—Borough is considering plans for a sewage disposal plant; cost, \$30,000.—Harry Patton, Borough Secretary.

**Erie, Pa.**—Plans are not yet finished for the abolition of the Mill Creek nuisance; one sewer will be constructed in French and another in State street, from Eighth street south; from Eighth street north the intersecting sewers will be placed in the bed of Mill Creek; a sewage disposal plant, cost, \$10,000, may also be erected.—City Engineer Briggs.

**Harrisburg, Pa.**—Council is considering construction of 30 in. sewer in Seventeenth street from State to Foster.

**Huntingdon, Pa.**—Town Council has passed an ordinance providing for the issue of \$10,000 bonds for the improvement of the sewers.—J. B. Boring, Borough Clerk.

**Lebanon, Pa.**—Engineer Crowell has estimated that a reinforced concrete sewer on Seventh street, to replace the present one, would cost \$2,394; laid on a flatter gradient to accommodate a proposed private storm sewer, it would cost \$2,839.

**Meadville, Pa.**—City has been granted an extension of time by the State Board of Health in which to build the proposed sewage disposal plant.—City Engineer J. H. Sporr.

**Philadelphia, Pa.**—Asking that \$500,000 be appropriated for the construction of intersecting sewers, J. Emory Byram has offered an ordinance in Select Council to relieve the present unsanitary sewerage conditions of Frankford Creek.

**Pittsburg, Pa.**—Council has passed an ordinance providing for the letting of a contract or contracts for the furnishing of material for the construction of a drainage system at the Brilliant Pumping Station.—J. E. Martin, Clerk, Select Council; Robert Clark, Clerk, Common Council.

**Reading, Pa.**—The Board of Public Works will ask for an appropriation of \$20,000 for a sewer in Franklin street; \$12,000 to complete the Rose Valley Creek sewer and \$10,000 for the construction of lateral sewers.—C. H. Hunter, President, Board of Public Works; E. H. Beard, City Engineer.

**York, Pa.**—Council has recommended that the proposed loan to be voted on in February, for the completion of the sewerage system, be increased from \$425,000 to \$450,000.

**Hot Springs, S. D.**—City Engineer Southward, Deadwood, S. D., is making surveys preliminary to installing a complete sewer system.

**Mitchell, S. D.**—City is considering a proposed sewerage system to cost \$20,000.—John L. Nelson, of Mitchell, Engineer; L. L. Ness, City Auditor.

**McKenzie, Tenn.**—A petition is being circulated for the issuance of bonds for a sewerage system.

**Beaumont, Tex.**—All bids for constructing sewer on and from Magnolia avenue to the Junker school building have been rejected, as bids were too high; Engineer's estimate, \$1,400; lowest bid, \$1,906.15; City Engineer C. L. Scherer will construct the sewer.

**El Campo, Tex.**—City has voted \$10,000 bond issue for street improvements, including laying sidewalks and drainage.

**Hubbard, Tex.**—City has voted \$15,000 sewer and street improvement bonds.—W. I. Bowman, Mayor.

**Winchester, Va.**—Engineer N. W. Davis, Charlottesville, Va., has been engaged to prepare plans for about eight miles of

sewers, with sewage disposal plant for Winchester.—Shirley Carter, Chairman, Sewerage Committee.

**Anacortes, Wash.**—Town is considering installation of a new sewer system.

**North Yakima, Wash.**—City will construct an 1,800-foot extension to the sewer in Sumach Park.

**Ladysmith, B. C., Can.**—Plans for a complete sewerage system have been prepared by E. Mohun, Civil Engineer.

## BIDS RECEIVED AND CONTRACTS AWARDED

**San Francisco, Cal.**—The Hanrahan-Erhardt Company has secured the contract, at \$78,847, for constructing the north portion of the East Potero Intersecting sewer.

**Denver, Col.**—The following bids were received on Dec. 14 for constructing storm sewers and appurtenances in and for South Capitol Hill Storm Sewer District No. 2: Gibbons & Hughes, \$62,633; Denver & Pueblo Constr. Co., \$64,218; Wm. Porter, \$67,417; National Constr. Co., \$68,365; Garfy & Keefe Constr. Co., \$70,812; Commonwealth Constr. Co., \$70,997.

**Fitzgerald, Ga.**—Contract for the construction of a sewerage system, including about 20 miles of 6 to 18-in. vitrified pipe sewers, manholes, etc., bids opened on Dec. 15, has been awarded by the Water, Light and Bond Commission to Sullivan and Long, Bessemer, Ala.—J. C. Anderson, City Engineer.

**Fort Wayne, Ind.**—The Board of Public Works received bids for a 12-inch sewer in the alley east of Short street and the prices offered were particularly low, Anton Rieg being given the contract at 67 cents a linear foot.

**Independence, Kan.**—Rushmore & Gowdy, Cherryvale, have been awarded the contract by the city for the construction of the West Side sewer at \$11,342. The work will include 860 ft. of 10-in., 3,744.5 ft. of 15-in., 3,620.5 ft. of 18-in. tile and 29 manholes.—J. D. Cramer, City Engineer.

**Louisville, Ky.**—Contract for construction work on Section D of the Beargrass interceptor in the big sewerage system has been let to T. J. O'Connell, of Baltimore, Md., by the Commissioners of Sewerage; the contract is worth about \$40,000, and is one among a number of several large contracts recently awarded. A number of other contractors made bids for the work. Section D is about 2,000 feet long, and extends from Shelby street and Broadway to Logan street.

**Grand Rapids, Mich.**—Bids for the new sewage pumping station machinery, comprising electric motors and centrifugal pumps were opened by the Board of Public Works on Dec. 10 as follows: Buffalo Steam Pump Co., 490 Broadway, Buffalo, N. Y., \$16,710 and \$49,758; General Electric Co., Schenectady, N. Y., \$15,182; Fort Wayne Electrical Works, \$49,378 and \$47,162; Westinghouse Electrical Mfg. Co., 209 Ninth street, Pittsburg, Pa., \$15,924 and \$61,022; Jeaneville Iron Works, \$38,370 and \$44,170; D'Olier Engineering Co., 121 South Eleventh street, Philadelphia, Pa., \$45,813 and \$69,200.

**Cape May, N. J.**—Bids were received by Council for the construction of storm water sewers on the New Cape May tract, the lowest bidder being Harvey Bennett, of this city, at \$43,000.

**Elizabeth, N. J.**—McCloud & Co., city, were awarded contract Dec. 20 by the Board of Aldermen for constructing brick intersecting sewer, for which bids were opened Nov. 2. The details of the bid follow: Main trunk brick sewer—2,560 ft. 44 in. brick sewer, 8 to 13 ft. deep, \$5.99; 1,140 ft. 42 in., 4 to 11 ft. deep, \$5.08; 350 ft. 40 in., av. 16 ft. deep, \$10; 1,000 ft. 38 in., 12 to 16 ft. deep, \$8; 1,300 ft. 38 in., 16 to 25 ft. deep, \$10.15; 700 ft. 38 in., 16 ft. deep, \$9; 900 ft. 36 in., 15 to 24 ft. deep, \$10.86; 500 ft. 34 in., 16 to 24 ft. deep, \$9.40; 2,150 ft. 32 in., 16 to 24 ft. deep, \$11; 1,200 ft. 30 in., 25 ft. deep, \$11.33; 250 ft. 30 in., 17 to 24 ft. deep, \$11.77; 250 ft. 28 in., 17 to 24 ft. deep, \$12.17; 200 ft. 28 in., 24 ft. deep, \$13.94; 100 ft. under river steel, \$25; 2 special manholes, \$100; 11 manholes, 6 to 12 ft., \$40; 9 manholes over 12 to 14 ft., \$55; 9 manholes, over 14 to 17 ft., \$65; 7 manholes, over 17 to 20 ft., \$75; 11 manholes, over 20 to 23 ft., \$80; 7 manholes, over 23 to 25 ft., \$90. Pipe sewers—100 ft. 18-in. pipe, \$5; 290 ft. 10-in., 16 ft. deep, \$3; 25 ft. 6-in., \$1.50, and 100 ft. 6-in., \$5; 15 ft. 4-in., \$5; 260 ft. 8-in., 17 ft. deep, \$4; 25 ft. 4-in., \$5; 25 ft. 4-in., \$5; 135 ft. 6-in., 11 ft. deep, \$2; 20 ft. 4-in., \$5; 70 ft. 6-in., \$5; 60 ft. 6-in., \$2; 368 ft. 12-in., 16 ft. deep, \$3; 50 ft. 10-in., \$2; 30 ft. 4-in. pipe, \$1.25; 90 ft. 6-in., \$1; 200 ft. 4-in., \$1; 230 ft. 12-in., 10 to 17 ft. deep, \$2.25. South street and Fourth avenue lateral—1,300 ft. 12-in. pipe, 12 ft. deep, \$1.75; 370 ft. 15-in., 13 ft. deep, \$4; 108 ft. under river steel, \$11; 80 ft. 10-in. pipe, \$1.50; 25 ft. 8-in., \$1.50; 6 manholes, 12 ft. deep, \$55; 2 special manholes, \$110. South Side lateral—700 ft. 15-

in., 19 to 27 ft. deep, \$6; 360 ft. 15-in., 23 to 27 ft. deep, \$6; 900 ft. 12-in., 16 to 23 ft. deep, \$5; 340 ft. 12-in., 19 ft. deep, \$4.34; 600 ft. 12-in., 11 to 19 ft. deep, \$3.69; 650 ft. 12-in., 19 to 21 ft. deep, \$4.50; 487 ft. 10-in., 16 to 20 ft. deep, \$4.35; 2 manholes, 11 ft., ea. \$54; 6 manholes, 16 to 19 ft., ea. \$92; 6 manholes, over 19 to 24 ft., ea. \$107; 80 ft. 6-in. pipe, over 24 to 28 ft., ea. \$107; 80 ft. 6-in. pipe, \$1.50; 25 ft. 8-in., \$2.50; 25 ft. 6-in., \$1; 25 ft. 6-in., \$1.50; 300 ft. 10-in., 14 to 26 ft. deep, \$4.34; 60 ft. 6-in., \$3.25; 15,000 cu. yd. rock excav., \$1.25; total, \$173,946.—W. H. Luster, Jr., City Surveyor.

**Oklahoma City, Okla.**—Rheinhardt & Donovan have been awarded contract for sanitary sewers in the Santa Fe district at \$660; all bids were rejected for the storm sewer in University addition.

**Chester, Pa.**—Two changes have been made in the contract awarded to Captain John J. Williams for the construction of the Upland street sewer; the first permits of payment for the work done when approved by the City Engineer, and the other eliminated that portion of the contract providing that Captain Williams shall pay \$10 per day penalty if the contract is not finished in sixty days; this was done in case of heavy storms which are likely to come on during this time of the year.

**Scranton, Pa.**—There were two bidders on Section I of the Seventeenth Sewer District; S. Di Martino's figure was \$3.79 per square foot, and he was underbid by A. Huggett, whose offer was \$3.67; M. A. Donahoe underbid Di Martino on Section C of the Eighteenth District by 90 cents a foot, their respective bids being \$2.16 and \$3.06.

**Beaumont, Tex.**—Bids received, Dec. 15, by the city for the construction of about 1,055 lin. ft. of 12-in. vitrified pipe sewer in a portion of Magnolia avenue, and 615 lin. ft. of 8-in. in Caldwell street, have been rejected; work will be done by the city.—J. G. Sutton, City Secretary.

**Roanoke, Va.**—The city has awarded the contract to the Roanoke Concrete Co., of Roanoke, for the construction of two terracotta sanitary sewers at about \$3,500.—W. B. Bates, City Engineer.

## WATER SUPPLY

**Gasden, Ala.**—City will vote on an additional \$50,000 worth of bonds for the completion of the water-works system.

**Mobile, Ala.**—City has ordered a water main constructed on Michigan avenue.—Superintendent Soost.

**Tuscaloosa, Ala.**—The Water Works Commission will extend water mains to New Town; cost, \$5,000.—Charles Abbott, Manager of Water Works.

**Douglas, Ariz.**—Estimates have been prepared for the construction of a water works; cost, \$311,118.

**Hartford, Conn.**—The Connecticut River Company has decided to petition the coming General Assembly for permission to construct dams across Connecticut River between Enfield and Suffield and Windsor Locks and East Windsor; dams are to be used for generating additional water and electric power.—H. W. Erving, Secretary.

**Washington, D. C.**—A recent issue of the "Mexican Herald" contained an article in reference to the possible reconstruction of the water-supply system in the City of Mexico, with consequent demand for large quantities of pipe. The article states that the Federal District authorities in connection with the Department of Public Works are planning the installation of a water supply system throughout the entire district, which will probably be introduced into the city in 1910. In view of the increased volume of water, the present pipe lines are considered to be defective and will be replaced by larger and stronger pipes.—Address No. 2918, Bureau of Manufactures.

**Augusta, Ga.**—Nisbet Wingfield, Commissioner of Public Works, will advertise for bids to be received in the near future for the construction of the new steam pump house; the main building will be constructed of brick, with possibly some trimmings; a brick smokestack will rise to a height of 100 feet above the building.

**Beecher, Ill.**—The installation of a water works system is being discussed.

**Kempton, Ill.**—City is considering the construction of an air-pressure water system; cost, \$2,000.

**Springfield, Ill.**—The Springfield Utilities Company, Unity Building, is considering the installation of a filter at its plant; cost, \$10,000.—Emil G. Schmidt, General Manager.

**Clear Lake, Ia.**—Citizens will vote soon on the issuing of water works improvement bonds.

**Perry, Ia.**—City will expend \$15,000 in rebuilding the water works; engineer not yet selected.

**Sioux City, Ia.**—City is considering improvements to the water works.

**Greensburg, Md.**—City will extend water mains on Ann street.

**West Brookfield, Mass.**—Town will petition the State Legislature for permission to construct water works.

**Spooner, Minn.**—Bids will be received December 31, 4 p. m., for purchase of \$15,000 6 per cent. water bonds; also \$5,000 6 per cent. outstanding floating indebtedness bonds.—C. H. Dodds, Village Clerk.

**Scranton, Miss.**—City will install about two miles of pipe, with hydrants and valves, steel tower and tank and hydraulic ram.—Walter G. Kirkpatrick, of Jackson, Engineer.

**Kansas City, Mo.**—Council is arranging details for proposed \$1,500,000 bond issue for water works improvements.

**Kansas City, Mo.**—J. D. Havens, F. J. Schmidt and Dr. C. J. Gilman, of the Special Council Committee on Bonds, are considering the request of the Board of Fire and Water Commissioners for \$1,500,000 for water works, \$100,000 for improving the fire alarm system and \$100,000 for new fire houses and equipment; water works bonds are to be used for new intake, new settling basins at Quindaro, another tunnel under the Kaw, additional pumps and the reinforcement of the distributing water main system with extensions into new territory.

**Faribault, Minn.**—Bids will be received January 11 for \$80,000 water works bonds.—D. F. Mackenzie, City Recorder.

**Auburn, Neb.**—The proposition to vote \$75,000 water works bonds to have been decided by special election has been postponed until January 12.

**Branchville, N. J.**—Citizens have voted to erect a public water works; proposed source is three miles above Branchville; cost, \$30,000.—Noah Hopkins, Borough Mayor.

**Camden, N. J.**—The Pedricktown Water Company, of Camden, has been incorporated to operate water works in the township of Oldmans; capital, \$25,000.—J. P. Leap, F. H. Elliott, M. L. Berry, incorporators.

**Elmer, N. J.**—Geo. Pfeiffer, Jr., of Camden, has prepared preliminary plans for the proposed water works.

**North Arlington, N. J.**—Bonds, \$25,000, have been sold for the construction of water works.—H. C. Bayliss, Borough Clerk.

**Perth Amboy, N. J.**—The Water Board has received a petition for a water main in Brace avenue; also for an extension in Leigh avenue.

**Trenton, N. J.**—The State Water Supply Commission has recommended the erection of several storage basins in the valley of the Passaic River; plan calls for a dam at Mountain View; storage basins as proposed would cost \$7,000,000.

**Las Cruces, N. M.**—Council is considering the granting of a franchise to the Las Cruces Electric Light & Ice Co. for water works and an electric light plant.

**Oakfield, N. Y.**—A special election will probably be held to vote on construction of water works; cost, \$25,000.

**Euclid, O.**—Bonds, \$15,000, have been passed by Village for construction of water works system.

**Huron, O.**—The State Board of Health has approved plans for the location of an intake for a public water supply.

**Youngstown, O.**—Bids will be received December 30 by the Board of Public Serv-

ice for furnishing 500, more or less, water meters.—W. H. McMillan, Clerk, Board of Public Service.

**Henryetta, Okla.**—The citizens have voted a \$50,000 bond issue for the purpose of installing a water works system; the plant will probably be in operation early in the spring; standpipe will be erected on top of the hill north of the town, which is 125 feet above the level of Main street, which will give all the pressure desired.

**Holdenville, Okla.**—Council is considering an issue of \$200,000 bonds for water works and sewerage system.

**Hugo, Okla.**—Bids will be received after January 15 for a system of water works.—Hiram Phillips, St. Louis, Mo., Consulting Engineer.

**McAlester, Okla.**—Citizens will vote January 19 on \$20,000 bond issue for extension of water mains.

**Minco, Okla.**—Bids will be received in February for the purchase of \$30,000 bonds for the proposed water works and electric light plant.—Burns & McDonnell, of Kansas City, Mo., Engineers.

**Camp Hill, Pa.**—The Committee on Water Pressure and Fire Protection has made a report to Council recommending the changing from four-inch main pipes to six-inch mains; Committee will ascertain cost of installing a municipal fire pressure system.

**Easton, Pa.**—By the adoption of a resolution by Common Council to have the question submitted to the voters of the city at the approaching spring election, a movement has been started toward municipal ownership of water works.

**Manayunk, Pa.**—The American Pipe Mfg. Co. is preparing plans for a pumping and water power plant on the Schuylkill River.—J. W. Ledoux, Engineer.

**Philadelphia, Pa.**—The Department of Public Safety will soon advertise for bids for a pumping station at Sixth street and Lehigh avenue, to be used in connection with the high-pressure fire line; plans have been prepared.

**Pittsburg, Pa.**—The list, aside from the General Budget, has been prepared for the Appropriation Committee as follows: Improvement to buildings at Brilliant pumping station, \$40,000; additional 6,000,000-gallon pumping engine in Herron Hill pumping station, \$45,000; improvement Howard street pumping station, \$75,000; extension of small pipe lines, \$50,000.

**Deadwood, S. D.**—City is considering the installation of water meters.—Mayor Adams.

**Edgerton, S. D.**—Town is considering the erection of a municipal water works plant.

**Anson, Tex.**—The O'Neil Engineering Company, of Dallas, Tex., is preparing plans for the construction of water works; cost, about \$20,000; contract will be let in about three months.

**Beeville, Texas.**—The Beeville Water and Light Company will rebuild water and light plant.—J. C. Hains, Secretary and Manager.

**Sanderson, Tex.**—Edw. McGinley, of El Paso, is interested in the construction of water works, electric light plant and ice factory.

**Rosebud, Tex.**—Bids will be received Jan. 15, 4 p. m., for \$23,500 water bonds.—S. J. Ward, Mayor.

**Seymour, Tex.**—The O'Neil Engineering Company, of Dallas, is preparing plans for

water works.—L. A. Donnell, City Secretary.

**Norfolk, Va.**—Mayor J. G. Riddick has approved ordinance appropriating \$387.41 for a water main in Landing street.

**Aberdeen, Wash.**—City is considering construction of a reservoir to reinforce the water system.

**Tacoma, Wash.**—Bids will soon be received for water works improvements as follows: 23,760 feet of 22-inch stave pipe; construction of a 500,000-gallon standpipe; an intake at Clover Creek Springs, with a pipe line 8 miles long, built of 28-inch pipe.—H. J. McGregor, Superintendent.

**Wilson Creek, Wash.**—Town will soon advertise for bids for a water system.

**Martins Ferry, W. Va.**—City has ordered the extension of the water mains on several streets.

**Princeton, W. Va.**—M. J. Cook, of Hinton, has secured a franchise to construct a system of water works.

**Elm Grove, W. Va.**—J. A. Birkett is interested in the construction of water works; cost, \$50,000.

**Sparta, Wis.**—The Water Commission is considering the construction of a reservoir of about 300,000 gallons capacity, 40x25 or 30 feet, concrete or steel.—Howard Teasdale, President, Water Commission.

**Toronto, Ont., Can.**—C. H. Rust, City Engineer, will purchase 281 water meters; estimated cost, \$10,996.

### BIDS RECEIVED AND CONTRACTS AWARDED

**San Francisco, Cal.**—Judge Seawell has signed an injunction against the Board of Public Works, restraining it from carrying on or concluding a contract with the Byron-Jackson Co. for the installation of turbine engines in the fireboats and projected pumping stations of the city; the contract was awarded on the advice of Percy V. Long, City Attorney, who advised the Board that the lowest bid, that of the D'Olier Engineering Co., of Philadelphia, Pa., was irregular in some particulars. The Byron-Jackson Co. bid \$120,000 and the bid of the D'Olier Engineering Co. was \$7,000 less.

**Yuba City, Cal.**—The Board of Trustees has awarded the following contracts for furnishing material and installing the new water system as follows: Minneapolis Steel & Machinery Co., Minneapolis, Minn., 91-ft. steel tower with a 28-ft. steel tank of 100,000 gallons capacity, \$5,250; cement foundation for tower, \$9 per cu. yd.; United States Pipe Co., c.-i. pipe, 5.265 ft. 8-in. and 4.542 ft. 6-in., \$32.28 per ton; 9,070 ft. 4-in., \$33.28; 90, 4, 6 and 8-in. specials, 3¼ cts. per lb.; Pacific Coast Supply Co., w.-i. pipe, per 100 ft., 2.145 ft. 3-in., \$24.01; 500 ft. 2½-in., \$18.35; 4,830 ft. 2-in., \$11.49; 1,000 ft. 1-in., \$5.28; 1,000 ft. ¾-in., \$3.67; double gate valves, five 8-in., \$16.95 each; five 6-in., \$11.25; four 4-in., \$6.95; 26 6-in. hydrants, \$27.50 each; ten 2½-in. Globe valves, \$4.80 each; 50 1-in. corporation cocks, \$1.05 each; 50 ¾-in. service cocks, 78 cts. each.

**Aspen, Col.**—C. E. Wilcox has awarded the contract for the construction of the Red Mountain ditch to C. A. Savage at about \$4,000. The ditch is being constructed by C. E. Wilcox and others of Woody Flats; the ditch when constructed will be about four miles in length, and the contract calls for its completion next May.

### Bids Received on Water Works Material for Greenville, Tex.

**Greenville, Tex.**—Award has been made for cast-iron pipe and specials to U. S. C. I. Pipe & Foundry Company; for hydrants and valve boxes to Darling Pump & Mfg. Co.; award for 6-inch and 8-inch valves to J. B. Newhall & Co.; award for 14-inch and 16-inch valves to F. W. Heilmann & Co.—Jos. Mitchell, Mayor; John W. Maxcy, Houston, Engineer.

#### CAST IRON PIPE

A—J. B. Newhall.....	\$19,000.50	D—United States C. I. Pipe & Foundry Co., awarded contract.....	\$18,860.50
B—L. M. Rumsey Mfg. Co.....	20,235.50	E—Hardy Greenwood.....	19,400.50
C—American Cast Iron Pipe Co.....	19,285.75	F—Central Foundry Co.....	20,458.00

Size	Feet	Tons	A—Price	B—Price	C—Price	D—Price	E—Price	F—Price per Ft.
6	27,300	470	\$29.30	\$30.55	\$29.90	\$29.30	\$30.20	\$0.53
8	2,700	65	29.05	30.55	29.85	29.30	29.20	.81
16	1,400	75	28.55	30.55	27.90	27.80	28.70	1.93
Fittings.....		20	60.00	80.00	60.00	55.00	57.80	....

#### HYDRANTS, VALVES, ETC.

A—Crane Co.....	\$1,794.37	F—United States Cast Iron Pipe Co.....	\$1,889.65
B—Shapman Valve Mfg. Co.....	1,790.20	G—Fairbanks Co.....	1,718.00
C—Darling Pump & Mfg. Co.....	1,735.90	H—Peden Iron & Steel Co.....	2,206.00
D—F. W. Heilmann Co.....	2,104.50	I—L. M. Rumsey Mfg. Co.....	1,820.08
E—J. B. Newhall & Co.....	1,794.05		

Item	Type	Size	No.	A—Price	B—Price	C—Price	D—Price	E—Price	F—Price	G—Price	H—Price	I—Price
Valve.....		6"	21	\$8.30	\$9.60	\$8.10	\$13.50	\$5.40	\$12.90	\$7.75	.....	\$9.65
"		8"	4	14.73	16.40	16.65	20.25	14.85	18.75	14.75	.....	17.65
"		14"	1	45.75	.....	.....	51.00	.....	.....	.....	.....	.....
"		16"	3	63.27	.....	.....	64.50	.....	.....	.....	.....	.....
Hydr'ts.....		4-3"	65	24.16	22.20	21.95	25.50	23.50	23.75	22.00	.....	22.30
V. Boxes.....		6"x8"	25	3.63	3.20	2.90	3.30	3.75	.....	2.65	.....	.....



**Denver, Col.**—The Denver Reservoir Irrigation Co. has awarded the contract, on Dec. 11, to Harrington & McNab, of Fort Collins, for cutting a tunnel 1,200 ft. long through the mountain near Eldorado Springs, the tunnel to have a capacity of 1,100 ft. of water and cost \$20,000.

The Phillips & O'Gara Construction Co., of Denver, secured the contract for enlarging the canal, which runs from Eldorado Springs to Marshall Lake at about \$100,000.—W. S. Rosecrane, Consulting Engineer.

**Washington, D. C.**—Bids were opened Dec. 21 by the District Commissioners for equipping an auxiliary water system and fire protection for the Home for the Aged and Infirm, subdivisions of Bellevue and Blue Plains, and the contract has been awarded to P. H. & J. Conlon, of Newark, N. J., for \$6,388.

**Emmett, Idaho.**—Council on Dec. 4 received bids for the construction of the water system, and the contract was awarded to J. H. Forbes & Co., Caldwell.

**Emmett, Ida.**—Bids were opened by Council for the proposed water system; four bids were submitted: Strang & Armstrong of Salt Lake, the Idaho Hardware and Plumbing Company of Boise, J. H. Forbes & Co. of Caldwell, Thomas Finnegan of Boise; J. H. Forbes & Co. were awarded contract for \$18,783; according to the terms of the contract work must begin within 30 days and be completed within four months.

**Grafton, Ill.**—Contract was not let, Dec. 9, by the city for the construction of water works, and the matter has been indefinitely postponed.—H. C. Miller, City Clerk; Richard H. Phillips, Security Bldg., St. Louis, Mo., Engineer.

**Hays, Kan.**—F. A. Hurlbut, Kansas City, Mo., has been awarded contract for constructing water works, including concrete pump pit, oil engines, connected to triplex pumps; 1½ inches of cast-iron pipe, specials, etc., for \$16,800.—C. A. Harkness, City Clerk.

**Eveleth, Minn.**—Bids for the construction of the 300,000-gallon tank which will be built on the baseball hill, and for the necessary piping, were opened by Council; for the reservoir, the bids were as follows: \$17,600, American Bridge Company, New York; \$17,768, Northwestern Steam Boiler Manufacturing Company, Duluth; \$12,850, Chicago Bridge & Iron Works, Chicago; \$16,900, Moravia Construction Company; \$13,440, Minneapolis Steel & Machinery Company, Minneapolis; \$13,540, Des Moines Bridge & Iron Works; \$16,500, J. J. Dunigan, Shenandoah, Iowa; \$13,900, M. Sheshia, Superior, Wis.; \$15,755, Piedmont Construction Company, Atlanta, Ga.

Pastoret & Lunz of Two Harbors bid for different tanks constructed by the Chicago Bridge & Iron Company, Moravia Construction Company, Minneapolis Steel and Machinery Company, and for the necessary piping. W. D. Labell, of Minneapolis; I. G. Robinson, St. Paul, and William C. Frazer, Rochester, furnished bids on the piping alone; Council referred the bids to Consulting Engineer Burch of Minneapolis.

**St. Paul, Minn.**—The Dimmick Pipe Co., of Birmingham, Ala., has secured contract for water pipe for coming year; the contract calls for between 14 and 15 miles of pipe and will cost about \$60,000. The South Park Machinery Co., St. Paul, secured the contract for the hydrants for next year for about \$5,000.

**Meridian, Miss.**—Bids were received December 8, at the office of the City Water Works Commissioner, as follows: Reinforced concrete reservoir: Cook Construction Co., Des Moines, Ia., \$17,500; Piedmont Construction Co., Atlanta, Ga., \$11,935; C. W. J. Neville, New Orleans, La., \$12,984; Paul N. Kershner, Dayton, O., \$12,000; Dubush-Dabbs Construction Co., Meridian, \$12,000; Missouri Valley Bridge & Iron Co., Dallas, Tex., \$14,490; J. A. Ormberg, Memphis, Tenn., \$15,900; H. M. Severance, Shreveport, \$18,522; Gallagher & Erdman, Columbia City, Ind., \$12,362; Southern Improvement Co., Memphis, Tenn., \$16,970; Chas. R. Lewis, Utica, N. Y., \$12,822; Constantin, Rees & Guerin, New Orleans, La., \$14,950; West Construction Co., Chattanooga, \$13,723; Foulke-Forbes Co., Terre Haute, Ind., \$12,650. For a 5,000,000-gal. horizontal cross compound and flywheel pumping engine: Nordberg Mfg. Co., Milwaukee, Wis., two sizes, \$18,800 and \$22,350; Platt Iron Works, Dayton, O., \$15,500; Hardy-Tynes Mfg. Co., Birmingham, Ala., 3 sizes, \$16,650, \$16,095 and \$15,400; Fred M. Prescott Co., Milwaukee, Wis., 2 sizes, \$14,210 and \$16,377; Wilson-Snyder Mfg. Co., Pittsburg, Pa., \$17,600; Hoovens-Owens-Rensselaer Co., Hamilton, O., 4 sizes, \$20,000, \$19,750, \$20,750 and \$20,450; Allis-Chalmers Co., Milwaukee, Wis., 4 sizes, \$16,790, \$15,700, \$17,144 and \$16,050; Jeansville Iron Works, Hazleton, Pa., 2 sizes, \$18,880 and \$21,956; A. M. Lockett & Co., New Orleans, La., \$12,330; Wisconsin Engine Co., Milwaukee, Wis., 2 sizes, \$18,300 and \$17,300; Canton-Hughes Pumping Co., Canton, 2 sizes, \$14,159 and \$13,650.

**Kansas City, Mo.**—The Board of Fire and Water Commissioners has approved the contract for the revetment work at Quindaro to protect the intake stations that supply this city and Kansas City, Kan.; the river is cutting away the bank at that point; the cost will be \$14,000; the Metropolitan Water Company of Kansas City, Kan., is to pay \$7,000.

**Haddonfield, N. J.**—Council has finally awarded the contracts for the construction of a municipal water plant, at a cost of \$75,080.35; the Water Committee submitted the same character of a report as that presented on December 1, when Council was enjoined from acting on them by the Haddonfield Water Company, which instituted proceedings in court. The following corporations and individuals were awarded contracts for constructing parts of the new water works system: Camden Iron Works, for furnishing pipe and special castings, \$25,151.75; Darling Pump Co., for furnishing valves, boxes, \$2,995; New Jersey Contracting and Construction Co., for laying suction pipe, \$8,909.60; New Jersey Contracting and Construction Co., \$1,600, and for constructing pumping cistern, \$4,490. Philadelphia Iron Works, for furnishing and erecting standpipe and foundation, \$9,090; Wilbert Beaumont for constructing engine house, \$4,900; Fairbanks Co., for drilling new well, 180 feet deep, and furnishing suction screen, \$674; Otto Gas Engine Works, for two gas producers, two gas engines and two Deane pumps, \$17,270.

Councilman Brown offered a resolution changing the rate of interest on the \$100,000 from 4 per cent. to 4½ per cent; the resolution was unanimously adopted and the contract for the \$100,000 worth of bonds was awarded to Howard K. Stokes, of New York.

**New York, N. Y.**—Bids were opened Dec. 21 at the office of John H. O'Brien, Commissioner Water Supply, Gas and Electricity, for furnishing, delivering and laying water mains in 16th, 17th, 18th, 19th and 20th streets, and in Irving place, Borough of Manhattan, and the following are the totals of bids, including valves, hydrants, connections, etc., also unit prices on some of the items required: (a) Joseph Burns, 147 E. 125th street, \$137,785; (b) John Cornwell, Jr., 69 E. 127th street, \$142,233; (c) Henry E. Fox, 122 E. 125th street, \$132,877; (d) Wilton Constr. Co., Williamsbridge, \$132,502; (e) Jas. M. Rodgers, 121 W. 125th street, \$139,692; (f) Hanover Constr. Co., 215 W. 125th street, \$129,176; (g) Patrick Goodman, 263 E. 133d street, \$154,959; (h) Jos. A. Boyce, Long Island City, N. Y., \$166,475; (i) Atlanta Constr. Co., 434 E. 91st street, \$138,307; (j) McArthur Bros. Co., 11 Pine street, \$210,842; (k) Jas. Kelly, Brooklyn, \$146,556; (l) Louis D. Gregory, 125th street and 1st avenue, \$127,424; 1,470 tons straight pipe, (a) \$30, (b) \$25, (c) \$30, (d) \$25, (e) \$26.35, (f) \$25, (g) \$23, (h) \$36, (i) \$24, (j) \$32, (k) \$28, (l) \$22.60; 85 tons branches and special castings, (a) \$80, (b) \$75, (c) \$70, (d) \$53, (e) \$54, (f) \$60, (g) \$47, (h) \$80, (i) \$57, (j) \$70, (k) \$52, (l) \$75; 100 cu. yd. rock excav., (a) \$5, (b) \$10, (c) \$2, (d) \$5, (e) \$11.50, (f) \$5, (g) 60 cts., (h) \$10, (i) \$5, (j) \$10, (k) \$10, (l) \$10; 2,200 cu. yd. rock excav., (a) 40 cts., (b) 75 cts., (c) \$2, (d) 1 ct., (e) 1 ct., (f) \$1, (g) 60 cts., (h) \$4.11, (i) 40 cts., (j) \$5, (k) \$3, (l) 37 cts.; 650 cu. yd. masonry excav., (a) 40 cts., (b) 75 cts., (c) \$1, (d) 1 ct., (e) 1 ct., (f) \$1, (g) 60 cts., (h) \$4.50, (i) 40 cts., (j) \$4, (k) \$1.50, (l) 37 cts.; 25,500 cu. yd. earth excav., (a) 40 cts., (b) 75 cts., (c) 50 cts., (d) 1 ct., (e) 34 cts., (f) 50 cts., (g) 60 cts., (h) 40 cts., (i) 40 cts., (j) \$1.25, (k) 60 cts., (l) 37 cts.; 25,500 cu. yd. fill, (a) 40 cts., (b) 75 cts., (c) 30 cts., (d) 1 ct., (e) 34 cts., (f) 10 cts., (g) 60 cts., (h) 15 cts., (i) 40 cts., (j) 30 cts., (k) 10 cts., (l) 37 cts.; 29,100 lin. ft. 12-in. pipe, (a) 40 cts., (b) 50 cts., (c) 40 cts., (d) 85 cts., (e) 40 cts., (f) 39 cts., (g) 60 cts., (h) 51 cts., (i) 40 cts., (j) 70 cts., (k) 42 cts., (l) 25 cts.; 11,500 lin. ft. 6-in. pipe, (a) 15 cts., (b) 25 cts., (c) 30 cts., (d) 1 ct., (e) 1 ct., (f) 10 cts., (g) 40 cts., (h) 33 cts., (i) 20 cts., (j) 50 cts., (k) 23 cts., (l) 1 ct.; 260 cu. yd. brick masonry, (a) 1 ct., (b) 1 ct., (c) 10 cts., (d) 1 ct., (e) 15 cts., (f) \$10, (g) \$10, (h) \$14, (i) \$10, (j) \$20, (k) \$12, (l) 1 ct.; 10,050 sq. yd. asphalt, (a) \$2.50, (b) 1 ct., (c) \$2, (d) \$3.65, (e) \$4, (f) \$3.10, (g) \$3.50, (h) \$2.20, (i) \$3.40, (j) \$4, (k) \$3.35, (l) \$2.65; 1,010 sq. yd. granite block, (a) \$1, (b) 1 ct., (c) 50 cts., (d) \$1.50, (e) 60 cts., (f) \$1.50, (g) \$2.50, (h) \$1.20, (i) \$2, (j) \$2.50, (k) \$2.15, (l) 1 ct.; 3,350 sq. yd. paving and flag, (a) 40 cts., (b) 1 ct., (c) 20 cts., (d) 1 ct., (e) 1 ct., (f) 50 cts., (g) \$1, (h) 35 cts., (i) 45 cts., (j) \$1, (k) 50 cts., (l) 1 ct.; 230 lin. ft. curb and gutter, (a) 1 ct., (b) 1 ct., (c) 1 ct., (d) 1 ct., (e) 1 ct., (f) 1 ct., (g) 1 ct., (h) 25 cts., (i) 14 cts., (j) \$2.50, (k) 50 cts., (l) 1 ct.

**New York, N. Y.**—Bids were received as follows Dec. 17, by John H. O'Brien, Commissioner Water Supply, Gas and Electricity, for furnishing and delivering c-i. pipe, branch pipe and special castings for high-pressure fire service; Poyce Root Co., 20

Broad street, New York, \$27,280; F. W. Drury, 2 Rector street, New York, \$28,613.

**Findlay, O.**—James B. Clow & Sons, Chicago, Ill., have been awarded contract for (a) 74 tons 6-inch cast-iron pipe, at \$22.55; (b) 20 tons 4-inch cast-iron pipe, at \$23.55, and (c) special castings at \$50. Massillon Iron and Steel Company, Massillon, bid (a) \$24.45, (b) \$25.45, (c) \$50; Seymour Remick, (a) \$25, (b) \$26, (c) \$55; U. S. Cast Iron Pipe and Foundry Company, (a) \$23.25, (b) \$24.25.

The Darling Pump and Manufacturing Company, Williamsport, Pa., has been awarded contract for six fire hydrants with 5-inch connections, at \$28.50, and three with 4-inch connection, at \$24; Seymour Remick, city, bid \$30.75 and \$25.50 for the two kinds of hydrants; Roe Stephens Manufacturing Company, Detroit, Mich., \$3,084 and \$28.65; Bourbon Copper and Brass Works, Cincinnati, \$36 and \$26.

The Bourbon Copper and Brass Works, Cincinnati, secured the bid for contract for five 4-inch gate valves and boxes, at \$8.25, and two 6-inch, at \$16; Seymour Remick, city, bid \$15 and \$11 for the two sizes; Roe Stephens Manufacturing Company, \$13.75 and \$10.25, and the Darling Pump and Manufacturing Company, \$13.35 and \$9.35.

The bid for air compressor and air receiver of Bury Compressor Co., Erie, Pa., was accepted at \$1,598, and that of the Adams Brothers Company, city, for boiler and smokestack, was accepted at \$446.—W. T. Platt, Clerk, Board of Public Service.

**Sandusky, O.**—The General Chemical Co., 135 Adams street, Chicago, Ill., secured the contract for about 300 tons of filter alum, at 95 cents per 100 lb.—B. J. McGory, Clerk Board Public Service.

**Portland, Ore.**—The Water Board has awarded contracts for 3,000 meters, 2,800 of which will be furnished by the Henry R. Worthington Co., 118 Liberty street, New York, and the balance by the Union Meter Mfg. Co.; total cost, about \$20,000.

The Water Board has awarded the contract for the new East Side water office to Steele, Berterlson & Co., for \$19,750; the H. B. Worthington Company was the successful bidder for 2,800 meters, and the Union Meter Company will furnish 200 meters.

**Salt Lake City, Utah.**—The Special Water Committee has submitted a contract between the city and Contractor C. F. Dinsmore for the new water works shop to be erected near the central fire station for \$2,615, and the contract was accepted.

**Emporia, Va.**—The Greenesville Water Power Company has awarded to Meherrin Bros. and Ragland, Holland & Meyers, of Richmond, the contract for constructing a granite and cement dam 36 ft. high and 700 ft. long, to cost about \$150,000.

**Spokane, Wash.**—Bids were received by the Commissioners on December 10 for a 28-in. direct-pressure water main, nearly 4 miles in length, to lead from pumping station to Jackson avenue and west on Jackson avenue to Division street, and the following are reported to be the bids received: J. C. Broad, 2115 Dean avenue, \$103,708 (awarded contract); Julia V. Costello, \$129,000; John Fife, \$110,000; Foster & Hindle, \$120,000; Naylor & Norlen, \$110,000; National Iron Works Co., \$110,000.

**Cheyenne, Wyo.**—The contract for constructing masonry dam, bids opened November 30, has been awarded to R. W. Bradley & Co., city, for \$45,199.—C. C. Carlisle, City Engineer.

## LIGHTING AND POWER

**Carlisle, Ark.**—O. W. Cook has purchased the plant of the Carlisle Power and Electric Company and will erect a new power house and install new machinery.

**Holly Grove, Ark.**—E. W. Burruss is considering the establishment of an electric light plant.

**Norwalk, Cal.**—Town has granted a franchise to J. R. Gordon for an electric lighting and power system.

**Pasadena, Cal.**—An election will be held soon to vote on \$250,000 bonds for the completion of the electric lighting plant.

**Placerville, Cal.**—Ten thousand miners' inches of water have been appropriated by George L. Threlkel from the North Fork of the American River in El Dorado County for power purposes.

**Red Bluff, Cal.**—Alfred T. Forward has filed notice of appropriation of 3,000 inches of water in South Digger Creek to be used for generating electric power.

**South Pasadena, Cal.**—City Trustees are considering the installation of tungsten lights on Mission street.

**Sterling, Col.**—The Sterling Consolidated Electric Light Company has been incorporated; capital, \$50,000; company will take over the franchise granted some time ago to C. C. Brown, of Denver, erect a power plant and also an ice plant.—E. M. Gillette, incorporator.

**Washington, D. C.**—Consul-General Wm. H. Michael of Calcutta, reports that a Brit-

ish company having failed to put in an electric lighting plant in Lucknow, India, according to the terms of a franchise granted to it about three years ago, the municipality of that city proposes to cancel the franchise and make other arrangements. The municipality passed a resolution inviting tenders by advertisement for lighting the city by gas or electricity.—Address No. 2915, Bureau of Manufactures.

**Dallas, Ga.**—Bids are now being received for the construction of power house. **Jesup, Ga.**—The Goose Creek Railway and Power Company is receiving bids for the construction of a power house.

**Elgin, Ill.**—The Council Committee on Gas and Street Lighting has completed the estimate for that branch of municipal expenditure; among the important features of this section of the budget, amounting to \$28,314, are the following requests: Fifty new street lights, at \$42 each; \$1,000 extra for business and residence district lighting; \$3,000 for gas testing machine.

**Joliet, Ill.**—The Economy Light and Power Company is making arrangements to run a high-tension transmission line from the Jackson street plant to Plainfield.—J. R. Staley, Manager.

**Morocco, Ind.**—The Morocco Electric Light plant has been sold to J. C. Carpenter, who will improve the plant and install modern machinery.

**Waterloo, Ia.**—City will expend \$25,000 for improvements to the gas plant.

**Bellevue, Ky.**—Council has commissioned Geo. Hornung & Son, of Cincinnati, O., to prepare plans and estimates for a municipal electric light plant.

**Shelbyville, Ky.**—The Shelbyville Water and Light Company is considering the increasing of its capital from \$20,000 to \$40,000; money to be used in enlarging and extending its system.—E. B. Graham, Manager.

**Augusta, Me.**—The Board of Mayor and Aldermen has passed an order for a series light on the east end of Cumberland street; also an order for a series light in front of the Circle Building on Northern avenue; Committee on Street Lights has also reported favorably upon a petition for a light on Page street at the corner of Capitol street.

**Portland, Me.**—Council is considering the establishment of a central heating plant in the city to heat the City Hall and school buildings.—Mayor Leighton.

**Haverhill, Mass.**—General Manager Patrick J. Nevins, of the Haverhill Gas Company, is working on plans for a gas company for Rockland, Abington and Whitman; company is now prepared to go ahead with the work of introducing a gas system in the three towns, the necessary formalities having been conformed with, and he asks that the Selectmen meet representatives of the company in regard to the details; the Selectmen of Weymouth will meet soon to act on the petition presented by the company to introduce a system in their town, to be a part of the system that is to cover the three towns first petitioned for by the new company.

**Cadillac, Mich.**—Attorney I. J. Westerman, of Adrian, is interested in a new electric lighting company for Cadillac; power will be secured by damming the Manistee River about 10 miles north of the city.

**Kalamazoo, Mich.**—The Kalamazoo Gas Company has asked Council for a gas franchise.

**Kalamazoo, Mich.**—Applications for permits to erect poles and string wires through the townships of Comstock, Ross, Richland and Kalamazoo, in this county, have been made to the various township boards by the Western Michigan Power Company, of Cadillac; company is one of recent organizations and is headed by C. E. Russell, of Cadillac. Extensive power will be developed in the vicinity of Cadillac, by river dams, and will be brought down the line for use at various intermediary points and in Kalamazoo.

**Redwood Falls, Minn.**—A. C. Burmeister is considering plans for the construction of a hydro-electric plant, the equipment of which will include two 100-kw. generators and water wheels; cost, including distributing system, \$20,000 to \$30,000.

**Hattiesburg, Miss.**—Council has ordered arc street lights placed in Wards 1, 2 and 3.

**Hattiesburg, Miss.**—Hattiesburgans are evincing a great deal of interest in the proposed water power plant to be erected at Seminary Falls, twelve miles north of the city, by Mobile capitalists; Mayor J. D. Donald recently had an engineer make a preliminary survey of Boule River, just above its confluence with Leaf River, two miles from the city, with the result that an estimate was made that at least 2,000,000 horsepower could be developed there at nominal cost.

**Independence, Mo.**—The Independence Gas Company has decided to extend its mains to Maywood.

**Macon, Mo.**—Bids will be received about

February 1 for the purchase of \$18,400 bonds, to be used for improvements to water works and an electric light plant.—Edw. S. Bennett, Superintendent and Engineer.

**Crested Butte, Mont.**—The Crested Butte Light and Water Company will rewire the town in the spring.—W. H. Whalen, Manager.

**Lincoln, Neb.**—Improvements involving an expenditure of between \$4,000 and \$5,000 are shortly to be made in the plant of the Central City Gas Company, with a view to improving the service and making a breakdown in the future well-nigh impossible.—C. F. Iddings, owner. N. L. Blake, manager.

**South Omaha, Neb.**—City is considering the construction and purchase of a hydro-electric light plant to be owned, maintained and operated by the city. Cost, \$2,000,000.

**Belleville, N. J.**—The Township Committee has decided to advertise bids for the furnishing of illumination; township now pays \$12 per year for incandescent lamp, but contract has expired and the company has refused to light the streets at the old rate.

**Hoboken, N. J.**—The Mutual Benefit Electric Light and Power Company has petitioned Council for franchise to furnish electric light and power.

**Sea Isle City, N. J.**—A proposition has been submitted to Council for the erection at that resort of a combination water and gas plant; estimated cost, \$40,000.

**Rensselaer, N. Y.**—An electric light and power company is considering asking for a lighting franchise; a plant will be erected.

**Bucyrus, O.**—The Electric Light Company has offered its plant to the city for \$35,000.

**Newton Falls, O.**—The Home Lighting Company has been incorporated; the company proposes securing a franchise for lighting the village and will get current direct from the Hydro-Electric Company.—C. F. Gardner, C. M. Rice, S. S. Borland, T. W. Cary and H. H. Porter, incorporators.

**Wooster, O.**—Town is considering the establishment of a municipal lighting plant.

**Afton, Okla.**—Surveys and estimates of water power of Grand River for Joplin (Mo.) Light and Power Company have been made; company will construct dam across Grand River and develop water power for plant which will furnish electricity to Alton and other cities.—J. Odell, Joplin, Mo.

**Henryetta, Okla.**—The John Smith Gas Company has an exclusive franchise to supply this city with gas for heating and lighting; pipes are being laid.

**Hobart, Okla.**—No contract has been let for the proposed pumping engine of 2,000,000-gallon capacity, both condensing and non-condensing; new bids will be called for.—J. C. Derrough, Engineer, City Water Works.

**McAlester, Okla.**—Citizens will vote January 19 on the granting of a gas franchise to Dr. L. C. Featherstone and associates.

**Oklahoma City, Okla.**—Henry Schafer and J. W. Maney, promoters of the Interurban electric line between this city and El Reno, and other prospective towns, have purchased the electric light plant at El Reno for \$224,801; they will utilize the plant for a power house at the El Reno terminus of the railroad line besides furnishing lights for the city.

**Ford City, Pa.**—City will increase the indebtedness \$16,000 to purchase the electric light plant there; municipality already owns the water works.

**Bellefonte, Pa.**—The Bellefonte Electrical Company, formerly the Bellefonte Car Works, is preparing plans and specifications for a dam, with high concrete breastwork, together with a concrete building, in which will be placed a dynamo, to assist in furnishing light and power; power generated at the dam will be conveyed to the main plant on West Lamb street.

**Breckenridge, Pa.**—The Phillips Gas Company has petitioned Council for franchise to operate gas lines in both boroughs; Council of Tarentum has also been asked.

**Reading, Pa.**—The Penn Electric Company, by John C. Amendt, Thos. O. Yarrington Jr. and Harry F. Kantner, will soon ask for a charter to supply light, heat and power to Reading and Berks County.

**McKenzie, Tenn.**—A petition is being circulated for issuance of bonds for a lighting system.

**Sparta, Tenn.**—Walter G. Kirkpatrick, of Jackson, Miss., will prepare plans and specifications for developing about 200 h.p. from Calf Killer River for lighting and industrial purposes; concrete dam, turbines and generators will be installed at the falls, 1½ miles from Sparta.—O. H. Anderson, Promoter.

**Bonham, Tex.**—Paul J. Mahoney has been granted a natural gas franchise; associated with Mr. Mahoney in his enterprise are a

number of Bonham people, who are financially interested in his project.

**Salt Lake City, Utah.**—Council is considering estimates of Louis C. Kelsey, City Engineer, of the cost of constructing an electric power plant to operate the electric pump being installed in connection with the sewerage system; cost of a 150-kw. plant, \$30,000; a 300-kw. plant could be installed for \$5,000 more.

**South Hill, Va.**—City will grant franchise for construction of electric light system.—Mack Pritchett, Clerk.

**Cheyenne, Wyo.**—The Cheyenne Light, Fuel and Power Company is preparing plans for the construction of two new gas furnaces at its West Cheyenne plant.

**Niagara Falls, Ont., Can.**—The Ontario Power Company is considering the erection of an addition to its generating plant which will increase its output by 65,000 h.p.; another pipe line or tunnel is to be constructed from Dufferin Islands to the power house below the bank, a distance of about three-fourths of a mile; cost, about \$800,000.

**Coaticook, Que., Can.**—A 200 or 400-h.p. suction producer gas plant will be installed at the municipal electric plant.—Elwin E. Akhurst, Superintendent.

## BIDS RECEIVED AND CONTRACTS AWARDED

**Redlands, Cal.**—The City Trustees have extended the contract of the Home Gas and Electric Company with the city for a period of five years, the price of street lighting to remain the same as for the present three-year contract, except that for putting incandescent lights in the residence section on a moonlight schedule, all night and instead of every night, as at present, the city gets a reduction of 15 per cent. on all lights on such schedule; the action was taken without taking the matter up with the Edison Electric Company or without calling for bids for the furnishing of juice. The contract price under the new contract as well as the one now in force will be \$4.50 per month for arc lights and 57 cents for incandescent lights. For any arc lights placed on the moonlight schedule and a 15 per cent. reduction of bills granted, the real price will be \$3.83 per month and for incandescent lights 48½ cents. The officials of the company stated that Long Beach paid \$6 for arc lights, Santa Monica, Oceanside, Pomona and many other cities \$5.

**Washington, D. C.**—Bids were received as follows, December 17, by the Superintendent of Construction of the new National Museum, Washington, D. C., for a generator switchboard: Walker Electric Co., Philadelphia, \$9,475; General Electric Co., Schenectady, N. Y., \$10,900; McCay Engineering Co., Baltimore, \$12,427; Lord Electric Co., New York, \$10,946; J. F. Buchanan & Co., Philadelphia, \$10,800; Westinghouse Electric & Mfg. Co., Pittsburgh, \$9,925; A. & J. M. Anderson Mfg. Co., Boston, \$10,582. Also for a quantity of heavy pipe, fittings and valves: Walworth Mfg. Co., Boston, \$8,293; Wallace Stebbins & Sons, Baltimore, \$8,210; M. W. Kellogg Co., Jersey City, \$7,916, \$8,142, \$7,525; Bridgman Bros. Co., Philadelphia, \$6,573; S. Faith & Co., Philadelphia, \$6,699; Crane Co., Chicago, \$7,166, \$7,292.

**Bay City, Mich.**—Council by unanimous vote has approved the report of the Electric Lighting Committee recommending the purchase of 220 lamps to renew the east side lighting equipment from the Westinghouse Electric & Manufacturing Co., at a cost of over \$500 above the lamps offered by the General Electric Co., a large number of which were recently purchased and are now in use.

**New York, N. Y.**—The Third Avenue R. R. Co. has contracted with the Westinghouse Electric & Manufacturing Co., of Pittsburgh, Pa., to equip the sub-station being constructed at Webster & Brook avenues, the Bronx. The installation will include four 1,500-kw. rotaries and twelve 550-kw. air blast transformers.—F. W. Whitbridge, Receiver.

**Cincinnati, O.**—The following are the bids received December 11 by Col. Wm. T. Russell, Corps Engineers, U. S. Army, for building a powerhouse at Dam 37, Ohio River: Robert Harris, Newport, Ky., \$14,387; Kaps & Brehm, Cincinnati, O., \$12,200; Gordon Engineering Co., Cincinnati, O., \$13,334; L. F. Hazen & Co., Cincinnati, O., \$13,422; Wm. Miller & Son, Cincinnati, O., \$13,739; M. Marcus Building Co., Cincinnati, O., \$13,071.

**Oklahoma City, Okla.**—Council has approved a contract with the Gas & Electric Company made by Mayor Henry M. Scales, reducing the gas rate from 12 cents to 10 cents per 250,000 cubic feet; F. H. Tidnam, manager of the gas company, was the other party to the instrument; this means that gas will be used as fuel at the water-works.

**Johnstown, Pa.**—Councils have unanimously passed finally resolution awarding



to the Citizens' Light, Heat & Power Company, the contract for lighting the city streets for a period of ten years, beginning January 1, 1909, but reserving, however, the right to cancel the contract at the expiration of five years. The bill provided for from 400 to 500 arc lights, to be paid for at the rate of \$50 a year, and incandescent lamps at \$25 per annum. Should the Mayor acquiesce, this action will dispose finally of a problem with which Council has been wrestling for the past few months. Council's action followed the decision of the Citizens' company in reducing its lighting bill for November from \$50 to \$40, the old contract price, per light.

**Tacoma, Wash.**—Commissioner H. J. McGregor received two bids for furnishing a constant current transformer; the Westinghouse Electric Company submitted a bid of \$718 and the General Electric Company offered to install the machine for \$721.

Bids were received for the contract for supplying 34,000 pounds of copper wire to the Board of Public Works, the Electrical Supply Company, Roebbing's Sons Company and Hoffman & Godfrey of Tacoma being the only bidders; each bid was for \$6,069; contract not awarded; Commissioner McGregor may advertise for further bids.

## FIRE EQUIPMENT

**Van Buren, Ark.**—City is considering need of better fire protection.

**Monrovia, Cal.**—A fire department will be organized and equipped.

**San Francisco, Cal.**—The Board of Supervisors will receive bids February 8 for \$2,000,000 fire protection bonds.

**Allington, Conn.**—Funds are being raised for the purchase of fire apparatus.

**Hartford, Conn.**—President Parker, of the Fire Board, has recommended plan to combine the new city building and central fire station with fire headquarters, fire alarm telegraph center and the largest fire house in the city all in one building; a flying squadron, composed of chemical and hose and a high-powered gasoline machine is also proposed.

**Ft. Dade, Fla.**—The United States Government has ordered the erection of a fire house. Quartermaster-General, Washington, D. C.

**Trimble, Ga.**—City is considering the purchase of fire apparatus.

**Canton, Ill.**—Town will organize another fire company.

**Du Quoin, Ill.**—A fire wagon and set of drop harness will be purchased by the city.—Job Cook, City Clerk.

**Coal City, Ind.**—Town is considering need of fire protection.

**Leavenworth, Kan.**—The specifications of the City Engineer for repairs for the South Leavenworth Fire Department has been received and the City Clerk has been instructed to advertise for bids for the repairs.

**Topeka, Kan.**—Mayor Green is considering the erection of an engine house in Oakland.

**Baltimore, Md.**—In addition to the construction of six engine and two truck houses the Fire Commissioners will spend at least \$500,000 out of the \$1,000,000 loan for the proposed pipe line system; work will begin in the spring.

**Havre de Grace, Md.**—City is considering installation of fire alarm system.

**Williamsport, Md.**—City will vote, March 1, on purchase of an engine for Volunteer Fire Company; funds are being raised.

**Northampton, Mass.**—Fire Chief P. E. Chase has recommended the purchase of 1,000 feet of hose and a new hose wagon.

**Somerville, Mass.**—City is considering purchase of gasoline engines.

**Minneapolis, Minn.**—A. B. Leach and E. H. Rollins, of South Chicago, have purchased the \$100,000 Fire Department bonds, paying a premium of \$3,040.

**Kansas City, Mo.**—The Board of Fire and Water Commissioners has asked the Special Committee on Bonds, composed of F. J. Shennack, J. D. Haven and P. J. Gilman, for \$100,000 for improving fire alarm system, and \$100,000 for new fire houses and equipment.

**Elizabeth, N. J.**—The Board of Aldermen has passed on its final reading an ordinance to issue \$20,000 worth of city bonds to pay for the erection of a new fire engine house, which will be located at Prince street and Irvington avenue, on land already purchased by the city.

**Flemington, N. J.**—City will purchase 1,300 feet of hose.

**National Park, N. J.**—The Hope Fire Company is soliciting funds to purchase apparatus.

**New Market, N. J.**—Citizens have organized a fire department.

**Perth Amboy, N. J.**—Council is considering the installation of an \$8,000 Gamewell Police Call System; eighteen boxes are proposed.

**Perth Amboy, N. J.**—Council has passed a resolution that the committee on fire buy one dozen rubber coats for the Garfields, rubber coats for the Department Chief and his assistants, and a pair of blankets for the Washingtons; a fire alarm system, cost \$8,000, is also being considered.

**Dunkirk, N. Y.**—City will purchase hose and apparatus.

**Rochester, N. Y.**—The Board of Estimate has appropriated \$52,000 for three fire houses.

**Rochester, N. Y.**—Mayor Edgerton is urging the purchase of at least one piece of motor apparatus.

**Charlotte, N. C.**—The Pioneer Fire Company is raising funds to purchase a chemical engine.

**Dayton, O.**—All bids opened December 14 for erecting the engine house on Jersey street have been rejected; plans are to be revised and new bids asked; appropriation, \$14,000.

**Mansfield, O.**—Plans are being prepared by Architect Vernon Redding for a fire station.—C. W. Mitchell, President Board of Public Safety.

**Edmond, Okla.**—A Fire Department, with two stations, will be established.

**Muskogee, Okla.**—Council is considering the erection of a new central fire station.

**Glassport, Pa.**—Town is considering the purchase of better fire equipment.

**Hazleton, Pa.**—Council has passed first reading on ordinance providing for the purchase of a chemical engine for the Diamond Fire Company; Clerk is securing data.

**Johnstown, Pa.**—Funds are being raised for the purchase of rubber hats, coats and boots for a local fire company.—Charles Schwartz, Secretary; Garland Young, Chief.

**Johnstown, Pa.**—The South Fork Volunteer Fire Company is soliciting funds to secure some up-to-date equipments.—Charles Schwartz, Secretary.

**Manville, R. I.**—Town is considering installation of fire alarm system.

**South Connelville, Pa.**—This section of the city is considering the purchase of fire apparatus.

**Providence, R. I.**—Common Council has added \$10,000 to the appropriation for the Fire Department.

**Austin, Tex.**—Members of the local Fire Department are urging the installation of a fire alarm system.

**Norfolk, Va.**—The Board of Control has asked for bids for one second size fire engine from the Nott Fire Engine Company and the American La France Fire Engine Company.

**Norfolk, Va.**—Mayor J. G. Riddick has approved ordinance providing for an appropriation of \$12,000 for overhauling and repairing the engine house on Queen street and for purchasing two new fire engines.

## BIDS RECEIVED AND CONTRACTS AWARDED

**Oakland, Cal.**—Eight bids for the construction of the new fire house to be built at Fifty-first street near Telegraph avenue, were received by the Board of Public Works; the city's estimate on the work is \$22,500, while the lowest bid was that of \$19,787, submitted by the Continental Fire Proofing Company; the others were by J. B. Sorensen, for \$20,495; S. F. Rebuilding Company, for \$24,289; Heteey Thibbitts & Company, for \$23,380; the Conbat-Thurston Company, \$23,380; Rickon-Ehrhart Engineering and Construction Company, for \$23,256, and R. N. Burgess & Company, for \$24,985.

**Hartford, Conn.**—The Board of Contract and Supply received bids on 2,000 feet of fire hose for the new engine house, No. 15, which will go into commission in the spring; the C. C. C. Company, of Boston, bid 70 cents per foot, fitted with McIntyre couplings, 79 cents per foot fitted with Hartford Standard couplings, and the bidding company explained that the McIntyre couplings desired by the Fire Board are not so efficient as some other couplings inasmuch as they will fit to no other coupling in case of necessity; the Hartford Standard, the bidders say, will withstand a severer pressure, and at the same time fit other hose in case of variations in the size. They offered to make a test in Hartford with hose at 800 or 900 pounds pressure at their own expense, to prove the superiority of the coupling they propose to furnish; the pressure demanded in the Fire Board's specifications is 500 pounds. The bids were as follows: Mineralized Rubber Company, of New York, 74 cents per foot, fitted with McIntyre couplings; Republic Rubber Company, of Boston, 90 cents per foot, fitted with McIntyre couplings; Eureka Hose Company, of Boston, 70 cents, fitted with McIntyre couplings; Combination Ladder Company, of Providence, AAA brand, with McIntyre couplings, 73 cents per foot; with expansion ring couplings, 69 cents; BBB brand, with McIntyre couplings, 72 cents; with expansion ring couplings, 68 cents. The bids were referred, with hose samples,

to the Fire Commissioners for consideration and report.

**New Orleans, La.**—The Finance Committee received the following bids for the building of an engine house in the triangle bounded by Villere, Laharpe and St. Bernard avenue: Michel Chesse & Company, \$3,540; M. & V. Garsaud, \$3,200; F. A. Noullet & Sons, \$3,737; John O. Chisholm & Co., \$4,347; Geo. H. Gessner and Edward Knoll, \$2,900, and Brown & Ward, \$4,026.

**Eveleth, Minn.**—Only one bid, that of W. F. Lawrence, of Two Harbors, for a fire team, was received, and he was awarded the contract at \$600.

**Utica, N. Y.**—The Board of Contract and Supply has awarded the contract for furnishing the Utica Fire Department with a combination wagon for use in No. 8 Engine House to the Robinson Fire Apparatus Company, of St. Louis, Mo., for \$1,844; other bidders for the contract were the Tea Tray Company, of Newark, N. J., \$1,965; American La France Company, Elmira, \$2,300; Combination Ladder Company, of Providence, R. I., \$2,000.

**Butler, Pa.**—Contract for the construction of the fire station on the South Side has been awarded to N. S. Snow, East Penn street, who will commence work on the structure in a few days; the Butler Building Block Company has asked Council to investigate the use of the concrete blocks, claiming that the blocks are far better from a fire standpoint than the brick and that the block will outlast the brick, as well as making a fireproof building. The bids for the construction of the building were as follows: Al Henry, \$3,175; N. S. Snow, \$3,486; A. M. Shaffer, \$3,624; Weigand & Son, \$3,625; J. Q. Fort, \$4,495. Mr. Henry's bid was lower than Mr. Snow's, but on account of there being no certified check with the bid, as well as the contractor objecting to the construction of the driveway, which would increase his bid considerably, the contract was awarded to Mr. Snow. The building to be constructed on Lookout avenue will be 36x15 feet, two stories in height, the entire lower floor to be used for the storage of apparatus, horses, etc., while the second floor will have two large rooms in addition to the sleeping quarters for the men.

**Johnstown, Pa.**—The South Fork Fire Company has ordered a new hose wagon and a hook and ladder truck from the Stewart Manufacturing Company, of Rochester, N. Y.; both vehicles are arranged to be drawn either by horses or men; on the hose wagon are carried a number of hand grenades and 2,500 feet of the best kind of fire hose; the entire outfit cost in the neighborhood of \$1,400, and were paid for when ordered.—Charles Schwartz, Secretary.

**Wilkes-Barre, Pa.**—Bids for the installation of the steam heating plant and the new floor and stairways at the No. 3 engine house were opened by the Public Property Committee of Councils, B. G. Carpenter & Company securing the heating and H. J. Melan the carpenter work; for the heating job thirteen estimates were submitted by the plumbers of the city, of this number the bid of the Carpenter firm, \$225, proving the lowest; for the other work four contractors entered bids; the bid of the successful competitor was \$433.

**Williamsport, Pa.**—The Supply Committee of Council reported bids for 600 feet of fire hose and recommended that the contract be divided in awards as follows: To the E. Keeler Company, agents for the Boston Fire Hose Company, 150 feet at 80 cents per foot; to the Eureka Fire Hose Company, 150 feet at 80 cents per foot; to the Fabric Fire Hose Company, 150 feet at \$1 per foot, and to the Gutta Percha Rubber Company, 150 feet at 80 cents per foot.

**Beaumont, Tex.**—A new hose wagon has been purchased from the Seagrave Company, of Columbus, O.; it is an up-to-date and complete hose truck with a capacity for carrying 1,500 feet of 2½-inch fire hose and equipped with a Glazier turret nozzle, as well as the Babcock extinguishers and the usual ladders; the truck is to be delivered about the middle of March.—Fire Chief Eastham.

**Seattle, Wash.**—The Board of Public Works awarded a contract to J. M. Johnson to build a new fire station at Harvard avenue and Union street; the new station will cost \$25,000.

**Spokane, Wash.**—The Board of Public Works has awarded the contract for furnishing 5,000 feet of fire hose equally between five lowest bidders on same, viz.: Jensen, King & Byrd Co., McGowan Bros., Smyth Plumbing Co., Washington Rubber Co., Spokane Hardware Co.; each bid was for 80 cents per foot.

**Vancouver, B. C., Can.**—Tenders for the construction of the new Fairview fire hall were opened with the following result: Morrison & Cowan, \$6,150; J. Caldwell, \$6,700; Braithwaite & Glass, \$6,750; E. A. Oudeville, \$7,289; C. T. McPhelan, \$6,350; C. P. Shindler, \$6,350; P. Tardiff, \$6,935;

T. R. Nickerson, \$6,650; the contract was awarded to Cowan & Morrison at its quoted figure with \$250 for the extra noted.

## ELECTRIC RAILWAYS

**Little Rock, Ark.**—The Helena, Parkin and Northern Railway Company, which proposes to build a line of railway through St. Francis, Cross and Poinsett counties, has been granted a charter; distance, 50 miles.—T. E. Hare, Promoter.

**Del Norte, Cal.**—The San Luis Valley Interurban Railroad Company has been incorporated to build a road from here to Center, also from Monte Vista to Center, to the Devil's Gate Reservoir, and from Center to Sanguache; capital, \$500,000; John M. Moser, E. L. Fleschman and A. J. Weiss, Directors.

**Pensacola, Fla.**—The Pensacola Investment Company will ask Council for a franchise to use certain streets to Bayou Taylor for a street railway.

**Salmon, Idaho.**—The citizens have subscribed \$70,000 for a line to Idaho Falls.—Robert W. McBride, Promoter.

**Sandpoint, Idaho.**—Council will grant a Street Railway franchise at once; F. J. McBride, Al. Filson, J. B. Southmayo, V. M. Smith and F. M. Molyneux made this request some time ago.

**Galesburg, Ill.**—The Galesburg Electric Motor and Power Company has applied for a franchise to construct a street railway.—R. N. McLaughlin, Superintendent.

**Taylorville, Ill.**—The Taylorville-Nokomis Traction Company has been incorporated to construct an electric railway from Taylorville to Witt, Ill., via Nokomis. Headquarters, Taylorville; distance, 25 miles; capital stock, \$5,000; W. B. Adams and A. R. Adams, Taylorville; P. M. Klinefelter, Morrisonville, Ill.; Alfred Griffin and W. F. Brockman, Nokomis, Ill., Incorporators.

**Brownstown, Ind.**—The County Commissioners have ordered a special election on January 11 to vote on an appropriation to aid the proposed electric lines between Brownstown and Seymour.

**Indianapolis, Ind.**—The Indianapolis Traction and Terminal Company is considering the purchase of about 50 new and modern street cars.

**Rockport, Ind.**—The Evansville Railways will build an extension next year from Rockport to Grand View, Tell City, Troy and Connelton; distance, 22 miles.—R. H. Cole, Chief Engineer, Evansville.

**Dubuque, Ia.**—The Dubuque-Patterville interurban road of Dubuque has changed its name to the Dubuque, Iowa and Wisconsin Railway; road will be built.

**Concord, N. H.**—James W. Barry, of Boston, has been granted a franchise for a street railway; construction is to begin within two years and completed in six months.

**Hoboken, N. J.**—Mayor Sterl has approved ordinance granting the Public Service Railway Company the right to lay certain switch tracks in the city.

**Patchogue, N. Y.**—The Suffolk Traction Company will resume work on its proposed electric railway, which is to connect Brookhaven, Bellport, Patchogue, Blue Point, Bayport, Sayville and Port Jefferson; distance, 40 miles.—O. R. Applegate, Chief Engineer.

**Seneca Falls, N. Y.**—No objections having been lodged and terms being acceptable the Town Board of Seneca Falls has granted a franchise to the Geneva, Waterloo, Seneca Falls & Cayuga Lake Traction Company; right is given for a track from the east line of this village to the shore of Cayuga Lake along the highway.

**Seneca Falls, N. Y.**—The Beebe syndicate, which owns the electric road between Syracuse and Auburn, is surveying a line between Auburn and this village, hoping to begin construction next spring if the concessions desired can be obtained from the city of Auburn; route has not been fully determined, but it will be over private property, which will allow double track construction and the maintenance of a high rate of speed; C. D. Beebe, of Syracuse, is at the head of the syndicate.

**Syracuse, N. Y.**—The Rapid Transit Company has petitioned for permission to build a curve to connect tracks in East Lafayette street with those in South Warren street.

**Columbus, O.**—The North Side Board of Commerce is urging the construction of a cross town car line from Neil avenue to Fourth avenue.—P. J. O'Neil, Secretary.

**Marshfield, Ore.**—The Coos Bay & Terminal Company will build the electric railway on Coos Bay; work will begin next spring.

**Lebanon, Pa.**—The Lebanon & Southern Street Railway Company has been organized; line will run from Campbelltown to Schaefferstown and Klienfeldersville, Pa.—J. M. Shenk, President.

**Philadelphia, Pa.**—Councilman H. A. Mackey is urging the building of a cross-town car line on Fifty-sixth street.

**Rutland, Vt.**—The Rutland Railway, Light & Power Company is considering the construction of an interurban line from Castleton Corners to Poultney, Vt.; distance, 6 miles.

**Bellingham, Wash.**—Council has adopted the franchise of the Nooksack Valley Railway & Traction Company.

**Burlington, Wash.**—City Council refused the application of the Anacortes-Sedro-Woolley Interurban for a franchise to enter the city and lay tracks on certain streets.

**Chehalis, Wash.**—Council has received a petition from W. J. Patterson, A. Welch and Theodore Hoss for an electric railway franchise.

**Ellensburg, Wash.**—The Cle Elum-Roslyn Electric Railway and Power Company has petitioned County Commissioners for a franchise for proposed line.—F. S. Farquhar, Representative.

**Spokane, Wash.**—The Spokane & Inland has petitioned the Board of County Commissioners for the new Opportunity line.

**Spokane, Wash.**—Springdale, Camas Valley and other cities are raising funds for a new line, the Spokane & Northern Traction Company, from Spokane north through Deer Park, Clayton, Loon Lake to Hunters on the Columbia.—C. H. Merriam and E. L. Knight, of Spokane, Representatives.

**Spokane, Wash.**—Council has granted the Spokane Traction Company franchises for extensions in the eastern part of the city and for switches and other improvements.

**Sumas, Wash.**—The B. C. Electric Company will receive bids early in January for the line between Abbotsford and Sumas.

**Martinsburg, W. Va.**—F. W. Patterson, a Civil Engineer, of Pittsburg, is here in interest of the proposed trolley line; as soon as right-of-way is arranged for, finances will be available; road will pass over West Allegheny street to the Square and south over South Market street.

**Wheeling, W. Va.**—Council has granted the franchise asked by the Wheeling Traction Company and the City and Elm Grove Company.

**Milwaukee, Wis.**—The Milwaukee Northern Railway Company will build 29 miles of new track; the line from Milwaukee to Cedarburg will be double-tracked; an additional line, to be single track, will be built from Cedarburg to West Bend, Wis.—F. W. Walker, Port Washington.

**Vancouver, B. C., Can.**—The British Columbia Electric Railway will start work at once on the tram line extending to the eastern boundary of Hastings township.

## BRIDGES

**Phoenix, Ariz.**—The Board of Supervisors is considering construction of a bridge across the Salt River; Engineer McClure has drawn plans for a \$53,000 structure.—Dwight B. Heard is a prominent mover.

**Pasadena, Cal.**—The North Lincoln Avenue City and County Improvement Association is considering the erection of a bridge across the Arroyo Lees to cost \$10,000.—J. W. Dubbs.

**Trinidad, Col.**—A new bridge will be constructed at Kadrew Siding; County Commissioners have granted an appropriation.

**St. Maries, Idaho.**—County Commissioners have decided to build a bridge across the St. Maries River, 3 miles from the mouth of the river.

**Hillsboro, Ill.**—Bids will soon be received for a bridge over Shoal creek; cost, \$1,000. G. W. Miller, Chairman Roads and Bridge Committee.—A. N. Baner, Clerk Montgomery County.

**Indianapolis, Ind.**—Bids will be received December 30, 10 a. m., for the erection of a retaining wall along west bank of White River, north of Morris street bridge; bridge over Fall Creek at Capitol avenue, Indianapolis; bridge over White Lick Creek in Wayne Township.—Albert Sahm, County Auditor.

**Council Bluffs, Ia.**—The Chicago Great Western Railroad is considering the construction of a viaduct over its tracks.—W. H. Chadbourne, St. Paul, Minn., Chief Engineer.

**Dubuque, Ia.**—Council is considering the construction of a viaduct over the Milwaukee Railroad Company's tracks; plans have been prepared; cost, \$50,000.

**Sioux City, Ia.**—The local traction company will alter the bridge at the intersection with Fifth street over which the cars to Riverside run; city is considering the paving of bridge floors.—City Engineer Skeels.

**Winfield, Kan.**—The County Commissioners will soon let contracts for constructing the following bridges: 3 steel bridges, 180 feet long, to be built over Spring Creek, one in Rockford Township and one in Morton Township, and also one in Delano Township over Cowskin Creek; old steel from the Douglas avenue bridge is to be used in the construction of a new bridge across the Arkansas River on Lawrence avenue; a bridge will also be built over Chisholm Creek in Wichita Township; total cost, \$16,000.

**Louisville, Ky.**—City will build a bridge in the spring over Beargrass Creek, connecting Underhill and Swann streets.

**Arlington, Mass.**—The East Arlington Improvement Association is urging the erection of a connecting bridge between Woodstock street in West Somerville and Henderson street in Arlington.—Peter Schwamb, Arlington Town Board.—Antony J. Philpott, East Arlington Improvement Association, Prime Movers.

**Boston, Mass.**—Bridges over the railroads on Huntington and Harrison avenues and Albany and Berkley streets are in urgent need of repair.

**Cambridge, Mass.**—A reinforced concrete bridge, to be erected on Boylston street, at a cost of \$100,000, is being designed by William Moll, Assistant Professor of Architecture, at Harvard, Newhall & Blevins and Jas. F. Clapp, for the Cambridge Art Society.—C. H. Blackall, Secretary.

**Vicksburg, Miss.**—Warren County Court has rejected all bids for building four bridges.—J. D. Laughlin, Chancery Clerk.

**Clarks, Neb.**—The County Board of Supervisors, Central City, are considering the erection of a bridge over Platte River.

**Brooklyn, N. Y.**—Plans have been prepared by Architects Helmle & Hu-berty, 190 Montague street, for the Shore Road bridge, to be built at Shore Road Park and First avenue; cost, \$75,000.—J. W. Stevenson, Commissioner, Department of Bridges.

**Le Roy, N. Y.**—The New York Central and Hudson River Railroad Company is preparing plans and specifications for eliminating the Stafford crossing by the construction of a viaduct.—G. W. Kittredge, Chief Engineer, New York City.

**Long Island City, N. Y.**—Plans have been prepared by Chief Engineer L. R. Savage, Jamaica, L. I., for fourteen bridges, to be erected at various street intersections in Long Island City, for the Long Island Railroad.

**New York, N. Y.**—Plans have been prepared by Architects Carrere & Hastings for approach spans, suspended spans, wrought iron work, etc., at the Manhattan bridge, for the department of bridges; cost, \$140,000.—J. W. Stevenson, Commissioner, Department of Bridges.

**Rochester, N. Y.**—The management of the Rochester and Sodus Bay Railway Company has given a substantial proof of its intention to carry out a policy of elimination of grade crossings by taking steps for the construction of a bridge at Hellen-dale avenue, in the town of Irondequoit.

**Seneca Falls, N. Y.**—The Geneva, Waterloo, Seneca Falls and Cayuga Lake Traction Company has been granted a franchise and will construct a bridge to cross Cayuga Lake, its western end to be located at a point 300 feet north of Bridgeport Park; bridge will be one mile and eight rods long, and at the Cayuga end will rise above the New York Central drawbridge and Cayuga canal.

**Syracuse, N. Y.**—The Delaware, Lackawanna and Western Railroad has petitioned Council for a grant to carry an overhead railway, offering in compensation to build a bridge about 100 feet in span and 24 feet wide to carry the proposed new boulevard across the tracks of the Syracuse Junction Railroad.

**Utica, N. Y.**—A bill will be introduced in the Legislature providing for the construction of a lift or hoist bridge over the Erie Canal at Seneca street.

**Fremont, O.**—Engineer A. V. Brown, of the Lake Shore Electric Company, Norwalk, O., is preparing plans for a bridge; cost, \$25,000.

**Marietta, O.**—Council has passed an ordinance authorizing the construction of a bridge and approaches across Goose Run.—Asa E. Ward, President; Benjamin J. McKinney, Mayor; L. N. Harness, Clerk.

**Massillon, O.**—The city will soon receive plans and specifications for a bridge over the canal, at Main street, from J. W. Ferguson, Chief Engineer, Toledo-Massillon Bridge Company.

**Guthrie, Okla.**—Chief Guy, of the Santa Fe, following the city's request for co-operation in the construction of a viaduct on Noble avenue, has prepared plans and specifications for an \$80,000 structure.—Mayor Barnes.—Councilman J. B. Fairfield, Chairman Street and Alley Committee.

**Pryor Creek, Okla.**—A petition is being circulated to call special election to vote \$150,000 in bonds to build bridges and culverts in Mayer County.

**Salem, Ore.**—Mayor Rodgers has appointed a committee to secure plans and estimates for a permanent bridge for South Commercial street.

**Johnstown, Pa.**—City Engineer Masterton has recommended that the bridge over Lane's run, Maple avenue, Franklin and McCaughy street be repaired.

**Norristown, Pa.**—The Commissioners of Montgomery and Locomotive County are considering the construction of a bridge over the west branch of Susquehanna River.



**Pittsburg, Pa.**—Director Shepherd, of the Board of Public Works has recommended a bond issue of \$326,400 for bridge improvements.

**Reading, Pa.**—City Engineer has estimated the cost of a bridge to span the Lebanon Valley Railroad at \$35,000.

**Wilkes-Barre, Pa.**—Residents of Wapwallopen, Hicks, Ferry, Beach Grove and that vicinity are now having a petition signed asking the County Commissioners to have a bridge constructed across the Susquehanna River at that point.

**Camden, S. C.**—Bids will be received in February for the construction of an iron bridge across Wateree River; cost, \$25,000.—C. C. Wilson, of Columbia, Engineer; M. C. West, Supervisor.

**Knoxville, Tenn.**—W. H. Burk, Consulting Engineer, is preparing plans for the construction of the Asylum avenue viaduct; S. D. Newton, City Engineer, is making the location survey; probable cost, \$75,000; bids for construction will be received in about 30 days.

**Nashville, Tenn.**—County will ask the next Legislature to appropriate an extra \$200,000 for building two bridges over Cumberland River; H. M. Jones, Engineer, has estimated cost at \$1,000,000.

**Dallas, Tex.**—The County Board has adopted plans calling for the expenditure of \$160,700 for the following improvements: High-level bridge at Millers Ferry, cost \$90,000; steel lift structure for Hutchins bridge, cost \$30,000; for Wilmer, cost \$22,500, and for the Molloy bridge, cost \$18,200.

**Norfolk, Va.**—Robert M. Hughes, Jr., Special Master appointed by United States Judge Waddill, is inquiring into the matter of issuing \$1,000,000 in Norfolk and Southern receivers' certificates for needed improvements, including the completion of the long bridge over Albemarle Sound.

**Bellingham, Wash.**—A pile bridge will be constructed at Grand avenue; cost, \$4,000.

**Hoquiam, Wash.**—City Engineer Moughmer has finished taking soundings on the Chehalis River in the vicinity of Simpson avenue for the proposed new bridge.

**Seattle, Wash.**—The officials of the Hariman railroad will award a contract for the construction of the overhead crossing over the Argo tracks as soon as the City Engineer and franchise inspector give their approval to the plans for that structure.

**Seattle, Wash.**—Council has received resolution for a new bridge and walk across the bay along Spokane avenue, to take the place of the present trestle on that thoroughfare; cost, \$60,000.

**Spokane, Wash.**—Council has received plans from the City Engineer for proposed viaduct over railroad tracks on the north side of the river at Division street; cost, \$311,000.

**Tacoma, Wash.**—City Engineer Davis has design for a reinforced concrete bridge for South Yakima avenue; single span, 220 feet long; total length, 344 feet.

**Wheeling, W. Va.**—City Engineer Chas. B. Cooke has prepared plans for the Market street bridge; cost, \$55,000; it will have a 162-foot span and be 66 feet wide.—C. C. Schmidt, Mayor.

**Milwaukee, Wis.**—City Engineer Chas. J. Poetsch is preparing plans for a new and wider bascule bridge, at Oneida street; bonds will probably be voted for at the coming election.

**Strathcona, Alta., Can.**—Council has instructed the City Engineer to prepare plans for the construction of a high-level bridge over Mill Creek.

### BIDS RECEIVED AND CONTRACTS AWARDED

**Sacramento, Cal.**—Clark & Henery, of Stockton, were awarded the contract for constructing the Balt-New Hope bridge, a steel draw, at \$3,740.

The Board of Supervisors has received the following bids for the construction of a bridge in Buckeye Valley, near the Amador County line: M. B. White, \$2,914; Jenkins & Wells, \$2,693; McGilivray Construction Company, \$2,589; Cotton Bros. Company, \$3,380; Clark & Henery, \$3,285; Western Bridge and Construction Company, \$2,853; C. W. Swain, \$2,710; C. G. Sheely, \$2,437; it will be necessary to make a fill of about 1,300 yards; the bids were referred to the Contract Committee.

**Greenfield, Ind.**—The Greenfield Bridge & Sewerage Co. has secured the contract for constructing a bridge over the Larrabee River in Brandywine Township.

**Motley, Minn.**—The County Commissioners have awarded the contract for the construction of a steel bridge over Long Prairie River, one mile south of here, to the Hewitt Bridge Co., 834 Lumber Exchange, Minneapolis, at \$4,950.

**Kansas City, Mo.**—Kenneth Hartley, 1500 Grand avenue, Engineer Commercial Improvement Company, states that bids were received Dec. 7 for the manufacture and

erection of a steel superstructure and concrete footings of a viaduct and the contract has been awarded to A. M. Blodgett Construction Company, of Kansas City, Mo., at the following bid: 1,440,000 pounds steel work, 3.94 cents; 1,540 cubic yards excavation, \$1.73; 540 cubic yards concrete, \$6.50, and 8,000 pounds reinforcing bars, 2.5 cents. Other bids received on 1,444,000 pounds steel work were as follows: Missouri Valley Bridge & Iron Company, Leavenworth, Kan., 4.55 cents; Cowing Engineering Company, Cleveland, O., 4.32 cents; Midland Bridge Company, Kansas City, Mo., 4.5 cents; Geo. W. Jackson, Inc., Chicago, Ill., 4.2 cents; Penn Bridge Company, Beaver Falls, Pa., 4.33 cents; Kansas City Structural Steel Company, Kansas City, 4.18 cents; Fort Pitt Bridge Works, Pittsburg, Pa., 4.3 cents; American Bridge Company, New York, N. Y., 4.6 cents; Milwaukee Bridge Company, Milwaukee, 4.1 cents; King Bridge Company, Cleveland, O., 4.9 cents; McClintic-Marshall Construction Company, Pittsburg, Pa., 4.84 cents; Strobel Steel Construction Company, Chicago, Ill., 4.44 cents; Ritter-Conley Manufacturing Company, Pittsburg, Pa., 4.125 cents; Pittsburg Steel Construction Company, Pittsburg, Pa., 4.05 cents.

**Cazenovia, N. Y.**—The bids received Dec. 22 by F. C. Stevens, Superintendent Public Works, Albany, for constructing a plate girder bridge over the outlet of Cazenovia Lake at Mill street, Cazenovia, were as follows: Montour Steel Company, Montour Falls, N. Y., \$4,041; United Construction Company, Albany, N. Y., \$4,065; W. J. Burns Company, Syracuse, N. Y., \$4,680.

**Fort Hunter, N. Y.**—Bids were received on Dec. 22 by the Highway Commissioners of the towns of Glen and Florida, Montgomery County, for the erection of a 2-span steel bridge across Schoharie Creek here, and two concrete abutments and one pier, each span to be 228 feet 1 inch long; the contract was awarded to the Toledo-Massillon Bridge Company, Toledo, O., at \$20,190.

**Columbus, O.**—The following are the bids received Dec. 16 by the Board of Public Service, Henry Maetzel, Chief Engineer, for the masonry for the Mound street viaduct, in connection with separation of street and railway grades—Engineer's estimate, \$107,798; Yawger Co., Indianapolis, Ind., \$87,891; D. W. McGrath, Columbus, \$91,927; Cooke, Grant & Fritz, \$88,400; L. E. Sturm, city, \$99,038; I. D. Tuttle, Cleveland, \$99,732; D. E. Sullivan & Son, city, \$102,246; Fritz & Rumer, city, \$103,248; The Schillinger Bros. Co., city, \$104,826; J. A. Swingle & Co., Zanesville, \$106,470; MacWardell, Strasburg, \$106,533; W. M. Brode & Co., Newcomerstown, \$110,283; Westwater & Casey, city, \$110,369; Francis Bros., city, \$112,159; Pittsburg Construction Co., Pittsburg, Pa., \$116,698; Wm. E. Schwartz, Shepard, \$117,114; Nave, Ryan & Curtis, Portsmouth, \$118,607; The Columbus Engineering and Construction Co., city, \$122,606; Henry F. Romaine & Co., city, \$133,486; C. T. McCracken & Co., city, \$137,380. Following are the details of the low bid of Yawger Company of Indianapolis: 8,100 cu. yd. excav., unclassified, \$0.59. Concrete, 2,740 lin. ft., Class A, parapet wall, \$2.00; 1,650 cu. yd., Class B, backing arches and abutments, \$3.75; 4,500 cu. yd., Class C, foundations, \$3.50. Sandstone masonry, 1,700 cu. yd., Class A, retaining walls, \$6.00; 2,450 cu. yd., Class B, piers and abutments, \$7.00; 2,690 cu. yd., Class C, arch ring and spandrel walls, \$8.50; 2,740 lin. ft., Class D, coping, 70 cts.; 64 lin. ft. limestone wheel course, 50 cts.; 235 squares waterproofing over arches, \$5.00; 6,850 cu. yd. embankment over arches and between retaining walls, 30 cts.; 30 tons crushed stone for roadway surface, \$1.00.

**Anadarko, Okla.**—The County Commissioners have awarded contracts for the construction of the Carnegie, Apache and Cyril bridges to the Illinois Bridge Company, Oklahoma City, at \$6,680.

**Newkirk, Okla.**—The Board of County Commissioners has awarded the contract for constructing a steel bridge over the Arkansas River at Newkirk to the Missouri Valley Bridge Company, of Leavenworth, Kan., for \$21,550.

**Lexington, S. C.**—The County Commissioners have awarded the contract for the construction of the steel bridge over the Saluda River to the Carolina Engineering Co., Burlington, N. C., at \$13,500.

**Seattle, Wash.**—Bids for construction of 122.6-foot span and approach for bridge near Elliott were opened. Contract to Puget Sound Bridge & Dredging Co., \$2,365.75; standard pile trestle, \$2.70 per foot; standard frame trestle, \$2.25 per foot; protection, \$2.75 per foot.

**Martinsburg, W. Va.**—For the construction of the superstructure of the bridge over Back Creek, near Glengary, the successful bidder was the William Farris & Brothers Bridge Co., of Pittsburg, winning over six other competitors; the structure will be of steel and will cost \$2,530. The following were the bidders and their

estimates: Nelson Meridith Bridge Co., of Chambersburg, \$2,700; J. McIlvaine & Co., of Chambersburg, style A, \$3,100, style B, \$2,650; Canton Bridge Co., Canton, O., \$2,700; Roanoke Bridge Co., Roanoke, Va., \$2,800.

N. L. Lancaster has been awarded the contract to repair the damages to pier No. 10 of the Williamsport Bridge, and he will begin work at once; as a sub-contractor under Elmore & Hamilton, Mr. Lancaster erected two piers and the abutment on the Virginia side of the river.

**Green Bay, Wis.**—Grelling Bros., city, have secured contract for constructing bridge over Fox River at Walnut street for \$159,950; other bids received were as follows: Standard Construction Co., Chicago, Ill., \$185,000; Chicago Bridge & Iron Works, Chicago, Ill., \$165,000; Milwaukee Bridge Co., Milwaukee, \$152,897; informal: Adolph Green, city, \$169,000.—W. W. Reed, City Engineer.

### MISCELLANEOUS

**Eufaula, Ala.**—The Civic Improvement League will purchase a marble drinking fountain; cost, \$600 to \$1,000.—Mrs. Lillie Mitchell or H. B. Dowling.

**Berkeley, Cal.**—The Committee on Tree Planting of the North Hall Improvement Club is securing data as to the trees best adapted for streets, their cost and best time for planting them.

**Berkeley, Cal.**—The North Hill Improvement Club has appointed a committee to look into the question of the disposal of garbage.

**Oakland, Cal.**—The Committee of the Whole of the City Council has recommended to Council that \$3,500,000 be provided in the next bond election for the improvement of the water front.

**Redlands, Cal.**—Engineer Hinckley has been ordered by the Board of Trustees to advertise bids for the construction of a concrete City Jail.

**Redlands, Cal.**—Council is considering the disposal of garbage; Councilman C. J. Crandall is urging the erection of a garbage incinerator to cost \$25,000.

**Sacramento, Cal.**—The Board of City Trustees is considering plans for the proposed new City Hall.

**San Francisco, Cal.**—Bids will be received Jan. 2, 10 a. m., for \$50,000 worth of seawall bonds.—W. R. Williams, State Treasurer.

**San Francisco, Cal.**—City is considering purchase of the Sanitary Reduction Works; \$385,000 bonds will be sold.

**San Francisco, Cal.**—The Board of Supervisors will receive bids for \$640,000 garbage disposal bonds and \$660,000 Hall of Justice bonds.

**San Luis Obispo, Cal.**—Plans have been prepared for a jail building for San Luis Obispo county.—Benj. H. McDougal, Monadnock Block, San Francisco, Architect.

**Hartford, Conn.**—City is considering need of a comfort house near the City Hall.

**Hartford, Conn.**—The General Committee on a new office building has decided on the immediate erection of a municipal building.—F. E. Ford, City Engineer.

**Washington, D. C.**—The Brazilian Review states that the Government of the State of Espirito Santo recently signed a contract with Dr. Augusto Ramos for the installation of water supply, electric lighting, and a drainage system at Victoria, the capital of the State. Work must be commenced within 30 days and completed within 14 months. The water supply will amount to about 25,000,000 gallons every 48 hours and the electric force will amount to about 800 horsepower. This concession is considered valuable owing to the extensive mineral resources of the interior of the country.—Address No. 2916, Bureau of Manufactures.

**St. Augustine, Fla.**—Mayor Masters has recommended that the north side of Osceola Park be selected as a site for a public playground and that a sand bed be provided.

**Augusta, Ga.**—Chief Sanitary Inspector Robert Nottingham has asked the city to set aside \$1,800 for the purpose of purchasing a crematory plant.

**Fitzgerald, Ga.**—The County Commissioners have accepted the plans of H. H. Huggins & Co., of Roanoke, Va., for the Court House; cost, \$45,000; and those of J. R. McEachen, of Atlanta, Ga., for the jail; cost, \$12,000.

**Columbus, Ga.**—B. H. Hardaway is considering the purchase of three Lidgerwood self-dumping cableways; new or second-hand.

**Macon, Ga.**—Marshal B. L. Hendricks is urging the building of a safety deposit vault somewhere in the City Hall.

**Chicago, Ill.**—Bids will be received December 30 for furnishing and delivering lumber as follows: 258,000 feet white pine, 136,000 feet yellow pine and 264,000 feet white oak; for the Bureau of Sewers at the Chicago avenue bridges, all the lumber of various sizes, lengths and finish, required by the Bureau during the year 1909.

**East St. Louis, Ill.**—The citizens have elected C. L. Gray, H. D. Sexton, C. T. Jones and G. Locke Tarlton, of East St. Louis, and T. F. Leydon, of Granite City, a committee to take charge of expending the \$6,000,000 recently voted for building levee to protect East St. Louis from floods.

**Kankakee, Ill.**—County is considering the erection of a Court House.

**Indianapolis, Ind.**—City has received specifications and will immediately receive bids for another motor patrol.

**Indianapolis, Ind.**—Plans are being prepared by Architects Rubush & Hunter for the City Hall; cost, \$600,000.

**Muncie, Ind.**—Architect Cuno Kibele has completed plans for a City Hall; cost, \$125,000.—Leonidos Guthrie, Mayor.

**Davenport, Ia.**—Council has received resolutions directing that a garbage plant be established before spring and that an expert be secured to decide on location, etc.

**Sigourney, Ia.**—The plans of Architects Wetherell & Gage, Des Moines, have been accepted for the three-story Keokuk County Court House; cost, \$110,000.

**Lexington, Ky.**—Mr. Richard A. Tacke, Superintendent of Woodland Park, has announced that the Board of Park Commissioners will have to secure a better appropriation for next year or plans for park improvement will have to be modified.

**New Orleans, La.**—The Board of Commissioners of the City Park Improvement Association has recommended the purchase of a site on the Bayou St. John for park purposes.

**Cambridge, Mass.**—The Park Board has requested the Mayor to petition Legislature for the right to borrow \$200,000 to complete the park system.

**Lynn, Mass.**—City Messenger C. I. Allen is urging the enlargement of the present City Hall.

**New Bedford, Mass.**—Mayor Bullock is urging the fitting up of three sites as municipal playgrounds.

**Springfield, Mass.**—Plans for a two-story and basement library building have been completed; cost, \$300,000.—Architect, Edw. L. Tilton, New York City.

**Cadillac, Mich.**—The Cadillac Board of Trade, Henry Knowlton, Secretary, has asked Council to submit the question of bonding the city for \$10,000 with which to purchase a site for a new County building, to the voters at the spring election.

**Detroit, Mich.**—Council has directed the Department of Public Works to submit estimate of \$40,000 for building and equipping a public bath house.

**Kansas City, Mo.**—County Court is considering the erection of a Court House in the uptown district or the erection of an annex to the present Court House.

**St. Louis, Mo.**—Plans have been prepared by Architects Milligan & Wray for a three-story and basement maniacal building for the Board of Public Improvements; cost, \$65,000.—President, A. J. O'Reilly.

**St. Louis, Mo.**—The Board of Public Improvements is having plans prepared for alterations to Court House; estimated cost, \$10,000.—A. J. O'Reilly, President.

**Atlantic Highlands, N. J.**—Attorney J. L. Sweeney has been ordered by Borough Council to draw up necessary papers for a special election for a bond issue for the proposed Town Hall.

**Auburn, N. Y.**—The Board of Supervisors is undecided whether to remodel present jail or erect a new building.

**High Falls, N. Y.**—The Board of Water Supply, New York City, will soon receive estimates for stables to be erected on the Esopus Division.

**New York, N. Y.**—The Board of Estimate and Apportionment has passed a resolution authorizing the issue of \$50,000 bonds to erect a wing to the Metropolitan Museum of Art.

**Rochester, N. Y.**—The Board of Estimate has appropriated \$9,000 for completing furnishings, etc., at Convention Hall, \$3,000 for engineering and maintenance of city buildings, \$4,500 for new bath house in Seventh Ward, and \$10,000 for remodeling the Central police station.

**Schenectady, N. Y.**—Mayor VanVoust is urging the securing of adequate playgrounds in connection with the public schools for the use of the children.

**Troy, N. Y.**—The Board of Public Works has been given authority to expend \$250 in purchase of an experimental wagon to be used in the collection of garbage.

**Watertown, N. Y.**—Bids will be called for February 1 for a \$10,000 comfort station to be erected on the City Square; F. A. Hinds, Henry Eager, Architect D. D. Kleff constitute the Special Committee.

**Yonkers, N. Y.**—The Board of Contract and Supply will probably reject the two bids received for the erection of a bath house and swimming pool, at Yonkers avenue and Oak street; lowest bid was \$32,358.—Jas. D. McIntyre, Secretary; Geo. S. Cowles, Architect.

**Cincinnati, O.**—City is considering the purchase of another plot of ground for park purposes.

**Cleveland, O.**—Plans have been approved and specifications will be prepared at once for the Cleveland Museum of Art Bldg.; cost, about \$1,000,000.

**Cleveland, O.**—A strip of land 50 feet by 1,400 feet in size, adjoining the Ambler-Woodland Hills boulevard and near the Fresh Air Camp, has been given to the city for park and boulevard purposes by Mrs. Caroline Baldwin.

**Columbus, O.**—Plans are being prepared for stone and concrete bridges for the Columbus Real Estate and Improvement Co. by A. Faharo Gage.

**Columbus, O.**—Plans for landscape gardening, building stone and concrete walks and walls, dams for artificial lakes, stone and concrete bridges, roads and driveways, etc., on forty-acre tract, for the Columbus Real Estate and Improvement Company, are being prepared by A. Faharo Gage.

**Columbus, O.**—Chief Engineer Chas. E. Perkins, of the State Board of Public Works, has given as his estimates for the rehabilitation of the Miami and Erie Canal the same amount as several years ago when he placed it at \$2,008,985, while the estimate made for improvements of the northern division of the Ohio Canal from Dresden to Cleveland is \$919,950; Engineer Perkins has recommended that the State operate its own dredging outfit, which would be a great saving; to rebuild the Middletown dam might cost \$52,000 with \$40,000 for the reconstruction of the Roscoe aqueduct.

**Hamilton, O.**—City Auditor H. A. Griesmer is urging issue of \$5,000 bonds for the erection of a City Hall.

**Toledo, O.**—Contract will soon be let for the disposal of city's garbage; Committee has conferred with the Toledo Agricultural Chemical Company in reference to it.

**Atoka, Okla.**—Plans for a Court House for Atoka county are being prepared by Architect P. H. Weathers, Guthrie.

**Coalgate, Okla.**—Architect P. H. Weathers, Guthrie, has prepared plans for a Court House for Coal county.

**Holdenville, Okla.**—Council is considering \$10,000 bond issue for City Hall.

**McAlester, Okla.**—Citizens will vote January 19 on \$8,000 bond issue for a city jail.

**Muskogee, Okla.**—Council is considering the erection of a new City Hall and fire station.

**Muskogee, Okla.**—The members of the Muskogee Bar Association are urging the location of the County Court House at some central point west of the Katy tracks.—W. I. Hutchings, Chairman.

**Marshfield, Ore.**—City will make municipal improvements to the extent of \$150,000 during the coming year; paving and plank-ing streets, \$95,000; sewers, \$55,000.

**Portland, Ore.**—Mayor Lane has recommended that the city purchase its own dredge and apparatus to make its own fills.

**Altoona, Pa.**—An ordinance will probably be presented to Council calling a special election for loan with which to secure money to build a new City Hall.

**Butler, Pa.**—Council will receive January 5, 7 p. m., plans and sketches and estimates on the cost of a municipal building proposed to be erected in and for the Borough of Butler, together with fees for furnishing such plans and superintending the construction of such building.—Geo. Armbruster, Geo. H. Limberg, J. E. Schnitzer, G. E. Sherman, L. E. Ruby.

**Philadelphia, Pa.**—Joseph Wharton, a wealthy retired iron merchant, has sent a letter to Mayor Reyburn announcing his gift to the city of twenty-five acres of land near Fern Rock as a site for a municipal park.

**Pittsburg, Pa.**—J. P. Brennan, City Architect, is preparing plans for a one-story public comfort station for the Department of Charities and Correction.

**Pittsburg, Pa.**—The Board of Appropriations has been asked to appropriate for the following: Propagating houses in Highland Park, \$10,000; additional park land along Butler street and improving the same, \$200,000; also \$65,500 for miscellaneous work.

**Quakertown, Pa.**—The German Alliance is making efforts to raise a fund to build a Town Hall.

**Reading, Pa.**—The Board of Public Works will ask for an appropriation of \$20,000 for street cleaning.

**Knoxville, Tenn.**—Mayor Brooks has appointed Aldermen Wilkes, Cox and Cooper a committee to see about building a vault where the city records can be kept.

**Memphis, Tenn.**—The Park Commissioners are planning to begin the work of improving a half mile section of the parkway, lying between the "Speedway" and the Louisville & Nashville Railroad, at once; Henry Wright, of St. Louis, one of the assistants of George F. Kessler, the Commission's landscape expert, has gone over the ground accompanied by members of

the Commission and Park Superintendent Thomas, for the purpose of making definite suggestions for its improvement.

**Memphis, Tenn.**—City is considering a \$1,000,000 bond issue for parks and \$250,000 issue for building central police station.

**Dallas, Tex.**—The Park Board has adopted recommendation of Mayor S. J. Hay for the purchase of a tract at Oak Cliff for park purposes.

**Houston, Tex.**—City is considering purchase of seven lots on Caroline street as a site for a proposed auditorium.—Mayor Rice.

**Norfolk, Va.**—The Finance Committee has approved resolution appropriating \$5,000 for the purchase of a mud dredge.

**Richmond, Va.**—Council Committee on Street Cleaning has recommended that money for the erection of a new garbage crematory should be provided for in the next budget; probable cost of plant, \$50,000.

**Aberdeen, Wash.**—Bids will be received Dec. 30 for furnishing 1,900 feet of wooden pipe.

**Georgetown, Wash.**—Council has rejected all bids for the construction of the new city hall, plans for which have been drawn by Architect V. W. Voorhees of Seattle; estimated cost, \$10,000; lowest bid, \$17,000; Council has decided to advertise for new bids.

**Husum, Wash.**—Plans have been drawn for a Town Hall.

**Bluefield, W. Va.**—T. T. Carter, Bluefield, is considering the purchase of automatic ash dumps.

**Wheeling, W. Va.**—The Police Committee of Council has appointed a committee composed of Waterhouse, Elliot and Beckett to procure a new patrol wagon.

**Vancouver, B. C., Can.**—City will erect a \$45,000 incinerator; police signal patrol will be improved; cost, \$16,000.

#### BIDS RECEIVED AND CONTRACTS AWARDED

**Bisbee, Ariz.**—Council has awarded contract to the El Paso & Southwestern Railway Co., at \$53,500, to build a subway.

**Chicago, Ill.**—The Lincoln Park Commissioners have awarded general contract to the Warner Construction Co. for a refectory building, in Lincoln Park, at \$55,100.

**New Orleans, La.**—Contract for construction of the Golden Grove levee in St. James Parish has been awarded to R. T. Clark, of Natchez, Miss., at 21.39 cts. per cu. yd.; estimated quantity, 25,000 cu. yds.

**Clarksdale, Miss.**—The Hopson Bayou Drainage Commission has awarded contract to Southern Concrete Co., Memphis, Tenn., for concrete work at mouth of drainage ditch. Concrete work will cost 30 cts. per cu. yd., and that reinforced by steel, \$12.15; total cost, \$4,300.

**Albany, N. Y.**—F. C. Stevens, State Superintendent of Public Works, received bids, December 22, for barge canal contract No. 20, which includes the dredging of a channel in the Mohawk River from Rexford Flats to Little Falls, upwards of 60 miles. This is the fourth time it has been advertised, though only the second time in its present form. Originally the contract called for only about eight miles of channel. The specifications were materially changed after the second call for bids failed and two bids were submitted, one by the Sundstrom & Stratton Co. of New York, of \$4,973,800, the other by the American Pipe Manufacturing Co. of Philadelphia of \$4,913,168. The engineer's estimate was \$4,173,900.

**Blackwell's Island, N. Y.**—The following are the bids received December 17 by Robert W. Hebbard, Commissioner of Public Charities, for the erection of a tuberculosis infirmary for the Metropolitan Hospital District, Blackwell's Island, Borough of Manhattan (bidders all of N. Y. City): Bosford Dickinson Co., 1187 Broadway, \$260,962; Kelly & Kelley, 45 E. Forty-second street, \$297,836; R. S. Walsh, 100 William St., \$294,000; Thos. B. Leahy, 2 East Forty-second street, \$289,327; Thomas Cockerill & Son, 147 Columbus avenue, \$291,000.

**New York, N. Y.**—Bids were received as follows, December 17, by the Department of Docks and Ferries for furnishing all the labor and materials required for repairing and rebuilding a portion of West Thirty-fifth street pier, known as Pier No. 75, North River, Borough of Manhattan: Phoenix Construction Co., 41 Park Row, \$35,897; Snare & Triest, 143 Liberty street, \$38,190; Butler Bros.-Hoff Co., 1170 Broadway, \$45,000; Bernard Rolf, 39 Cortlandt street, \$39,333; William H. Jenks, 59 Pearl street, \$41,696; P. Sandford Ross, Jersey City, \$47,280; N. Y. Submarine Contracting Co., 130 Pearl street, \$37,900; George B. Spearin, \$38,233.

**Cleveland, O.**—The contract for constructing wharf at Cleveland Harbor has been awarded to the Great Lakes Dredge & Dock Co., Chamber of Commerce Building, Chicago, Ill., at \$83,735.

**Wellsville, O.**—The Board of Service, in special session, opened seven bids for the



remodeling of the city building, of which five were local contractors, and Smith & Forbes were the lowest, at a figure about \$1,260. No contract was, nor can be, let until the Sinking Fund Trustees shall have arranged for the provision of the money to be used in the payment for these alterations.

**Coalgate, Okla.**—The Board of Commissioners of Coal County has awarded the Manhattan Construction Co., of Chandler, the contract to erect a court house on S. Main street, at a cost of \$88,000.

**Oklahoma City, Okla.**—Contracts for city stables have been let by Council to Swatek & Parker for \$3,926.80.

**Tulia, Tex.**—The successful bidders on the Swisher County Court House were Martin Holderness & Oats, of Stamford, Tex., at \$55,694. —W. B. Hale, County Judge.

**Tacoma, Wash.**—Commissioner of Public Works H. J. McGregor has awarded to the Pacific Stamp Company the contract for furnishing the city with 1,500 street signs; there were three bidders for this contract.

## INCORPORATIONS

**Adams County Electric Light, Heat and Power Company, Gettysburg, Pa.;** capital, \$5,500.

**Pioneer Electric and Power Company, Eufaula, Ala.;** capital, \$9,500. Incorporators: C. E. Foley, Phil Brown, C. H. Tully and J. T. Primrose.

**Terry Core Drill Co., Hastings-on-the-Hudson, N. Y.;** to manufacture core drills and machinery; capital, \$100,000. Incorporators: Coleman A. Terry, 518 West 151st street, New York; Frederick Snare, Englewood, N. J.; Arthur W. Bittenheim, Madison, N. J.

**Wilkinson Valve and Supply Manufacturing Company, Batavia, N. Y.;** capital, \$200,000. Incorporators: George W. Wilkinson, Batavia, N. Y.; Jacob Gnupp, Geneva, O.; Ernest L. Squire, Wilmington.

**Belleville Electric Company, Belleville, Pa.;** capital, \$15,000.

**Charles E. Fraser & Co., New York, N. Y.;** to manufacture materials for masonry construction, contractors; capital, \$35,000. Incorporators: Helen S. Fraser, Richmond Hill; William J. B. Fraser, 510 Manhattan avenue, New York; Charles E. Fraser, 725 Lefferts avenue, Richmond Hill.

**Hydrolithic Cement Company, New York, N. Y.;** to manufacture natural and artificial cement, lime, plasters and artificial stone, erect kilns; capital, \$200,000. Incorporators: Benjamin F. Russell, Arthur W. Britton, Samuel B. Howard, 37 Wall street, New York.

**International Light and Power Company, Augusta, Me.;** to supply electricity and gas; capital, \$1,000,000. President and Treasurer, J. Berry; clerk, J. Williamson, both of Augusta.

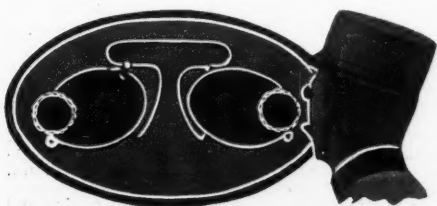
**Liquid Gas Company of Massachusetts, Boston, Mass.;** general gas business; capital, \$500,000; President and Treasurer, Ernest S. Webb, Danvers; Clerk, Melbourne K. Dunham, Brookline.

**Martinsburg and Charleston, West Virginia, Gas and Water Company, Camden, N. J.;** capital, \$300,000. Incorporators: Wm. P. Huston, John H. Blyo and Wm. Goodwin.

**New Jersey Road Oil Company, Jersey City, N. J.;** capital, \$500,000. Incorporators: H. O. Coughlin, John R. Turner and S. A. Anderson. The company is to manufacture, product, drill, etc., and deal with crude petroleum, etc.

**New York and Maine Granite Company, New York, N. Y.;** to mine and cut granite, marble and stone; capital, \$5,000. Incorporators: James A. Martin, 1010 Woodcrest avenue; William A. Cooper, 71 Wall street; Frank A. Spencer, Jr., 1051 Falle street, all of New York.

**Western Engineering Company, New York, N. Y.;** general contractors, mechanical and electrical engineers; capital, \$6,000. Incorporators: Samuel McCullough, 424 Prospect place, Brooklyn; G. Q. Dean, 1628 Amsterdam avenue; Fred Knowlton, 527 East 147th street, both of New York.



REFLECTING EYE-GLASSES FOR DETECTIVES

## MUNICIPAL APPLIANCES

### Head Lamp for Street Cleaner

THE Vesta Accumulator Company, 1336 Michigan avenue, Chicago, Ill., manufactures an electric head lamp which has been adopted by the South Park Commission to protect its night workers and sweepers from being run down by automobiles, as well as for purposes of identification. A two-volt tungsten lamp arranged in a special socket for mounting on the hat of the wearer derives its current from a single pocket storage cell rated at six ampere hours. This is sufficient to maintain the little lamp from 12 to 15 hours on a single charge, it is asserted. The storage battery uses lead plates and an electrolyte of so-called "solidified" sulphuric acid, giving a compound of the consistency of table jelly. The cell is



STREET CLEANER WITH HEAD LAMP

about an inch in thickness and measures 2-3/4 by 6-1/2 inches. It weighs 1-1/2 pounds. The charging rate of the cell is 1-2 ampere, requiring 12 hours for a complete charge. The cell is conveniently charged from a 110-volt direct-current circuit by inserting it in series with an ordinary 16-candle-power incandescent lamp.

### Detectives' Spectacles

THE police force of Paris is being equipped with eye-glasses having a small adjustable mirror, to enable officers to watch suspicious characters without appearing to do so. As the mirror is concave the policeman sees what is going on behind his back. The new spectacles are the invention of Commandant Scue.

## TRADE NOTES

**Cast-iron Pipe.**—Chicago: No lettings are in sight for the immediate future and the market is very quiet. Quotations: 4-inch, \$27; 6 to 12-inch, \$26; 16-inch and up, \$25. Birmingham: Conditions are not such as to warrant an advance in prices, but stocks have been reduced by shipments on contracts. Quotations: 4 to 6-inch, \$25; 8 to 12-inch, \$24; over 12-inch, average \$23. New York: Some business is being done for spring delivery on the basis of \$1 per ton advance. Quotations: 6-inch, \$24.50 per ton in carload lots.

**Pig Lead.**—Some good business has been done in lead this week, and consumers have bought freely at constantly lower prices. Quotations: 4.20c., New York.

**New Gas Holder.**—The contract for a new iron gas holder to replace the one destroyed by an explosion as a result of being struck by lightning last summer, has been let by the Springfield (Mass.) Gas Light Company. The new holder will be erected upon the old foundation in Water street, and will be constructed by Bartlett, Hayward & Co., of Baltimore and New York, specialists in this line of business. Operations will not begin until next spring, the cost being estimated at \$40,000. With the erection of the new holder, which will have a capacity of 400,000 cubic feet, the company will have three gas holders, the other holders having respective capacities of 2,000,000 and 750,000 cubic feet.

**Street Cleaner.**—Harry L. Snyder, of Harrisburg, Pa., has perfected an apparatus for sweeping the streets and disinfecting them at the same time. The machinery for effecting these things is placed on a wagon which can be drawn by one or more horses, according to the size of the wagon desired. The apparatus will shortly be patented, Mr. Snyder has been informed by his patent attorneys. The disinfecting tank is carried under the driver's seat and sprinkles the street in front of the brushes that sweep the paved streets. Where it is not desired to disinfect the streets water may be used, thus doing away with all dust. The brushes sweep the dirt into a covered box, from which by a plurality of brushes, it is carried to a dust-proof box, which will contain two or three cartloads of dirt. The wagon can be dumped at the will of the driver from his seat.

**Paris Switchboard.**—The replacement of the destroyed Paris telephone switchboard was completed according to specifications November 30, and the \$600 daily penalty clause in the contract, for every day over 60 days required in building this switchboard, was thus rendered inoperative. The Chicago plant of the Western Electric Company started work on the big switchboard October 3, shipped it to New York on October 23, and it arrived in Paris on the steamship "La Provence" November 6. This is the second record made within a year by the Western Electric Company for rapid telephone exchange replacement, the other being that of the Antwerp exchange—the oldest in Europe—for which a 5,000-line equipment was manufactured and installed in 30 days. The Paris contract covered a 10,000-line equipment, and, while apparently involving but twice the labor of the other, in reality meant several times more. The fast time made stands as another triumph for American skill and enterprise.

**Power Plant.**—A letter from the Kutzmann Foundry and Machine Company of Philadelphia, Pa., received by President Weadon of the Board of Public Service of Columbus, O., recently stated that blueprints have been sent for the new garbage disposal machinery, for the approval of the Board and the City Engineer. This firm was recently awarded the contract for furnishing the engines for the reduction part of the new garbage disposal plant. Actual work of installation will begin in the spring.

**Concrete Mixer.**—The Dexter concrete mixer sold by the Marsh Company, Old Colony Building, Chicago, Ill., has several points for which superiority is claimed. The machine has only four bearings, two bronze bearings for the driving shaft which also serve as dumping bearings and two hardened steel ball bearings for the mixer proper. The mixer is so well balanced and the bearings are so good that but little effort is required for dumping. The machine is also so designed that it is a very simple matter to change the dumping from one side to the other without turning the machine around. Also keeping in line with the advanced practice, a gasoline engine for driving the mixer is fastened to the same frame. Drive is by means of chain and gear. The No. 2 mixer is guaranteed to mix and dump  $\frac{1}{2}$  yd. of material in one minute, and will safely handle  $\frac{3}{4}$  of a yard.

**Public Accountant.**—Harvey S. Chase & Company, Public Accountants and Auditors, 84 State Street, Boston, Mass., announce that the limited partnership heretofore existing under the above title between H. S. Chase, C. H. Tuttle, C. B. Allen and A. T. Chase has been dissolved by the death of Mr. Chauncey B. Allen. The surviving partners, together with Mr. Clinton H. Scovell, recently associated with Gunn, Richards & Company of New York, have formed a limited partnership and will continue the general practice of public accountancy under the same firm name with offices at the India Building, 84 State Street, Boston, Mass.

**Steel Bands for Belting.**—Steel bands to take the place of leather belting for the transmission of power are stated by a German technical paper to have proved practicable after repeated tests by a firm in Charlottenburg. This new method, it is claimed, possesses many points of superiority over the style of belting now employed. On account of its solidity a much narrower band can be used, one-sixth of the width of the usual leather band being sufficient; as a result of this the steel band is not so heavy as the usual leather band, and, as it can be very tightly adjusted, the distance between the engine and the machine is not a matter of importance, as is the case with the leather belting, where the transmission of power is dependent upon the weight of the hanging belt; by a unique contact, the slipping is much reduced, experiments having shown that this does not exceed one-tenth of one per cent. Careful and repeated experiments have shown that the entire loss of power is very small, and as far as can be ascertained will not exceed one per cent.

**Gas Plant.**—A new gas plant is to be built and equipped within the next ninety days at Cairo, Ill., by the Illinois Traction Company. All the old tanks will be taken down and new storage steel pits will be built in accordance with the modern plan of gas works. An entirely new equipment of machinery, including generators, condensers and purifiers of the modern type will be installed. A modern gas holder eighty feet high will be a part of the proposed improvement.

**Contractor's Equipment.**—Scully Steel & Iron Company, of Chicago, Ill., have just issued their annual Blue Book, which they are sending out to the trade, together with their monthly stock list. The Blue Book contains a list of the many things this company handles, ranging from bolts and nuts through the entire steel and machinery line to complete power plant equipment. Of interest to superintendents is the tool and machinery list, together with the engines and air compressors. The Scully Steel & Iron Company is the largest steel jobbing company in the United States, and they carry a large line of material in their warehouse and can ship on telegraph order if necessary. Hence the convenience of having the Blue Book at hand. A note in the front of the book explains admirably the policy of this company toward its customers. It says: "We try to be careful. We are careful, but we make mistakes once in a while. You can confer no greater favor on us than to tell us about any mistake we may make in business dealings with you—pleasantly if possible, but tell us, anyway. Such information is taken by us not as criticism, but as a kindness. It won't take us long to make the wrong right."

**Industrial Instruments.**—The Industrial Instrument Company, Foxboro, Mass., has been organized to manufacture and sell a complete line of gauges and other instruments. Its officers are: President, Bennett B. Bristol, formerly secretary and treasurer of the Bristol Company; vice-president, Walter W. Patrick, until recently manager of the New York office of the Bristol Company; secretary, Henry P. Dennis, formerly manager of the Chicago offices of the Bristol Company; treasurer, Arthur F. Mundy, secretary and general manager of the Standard Gauge Manufacturing Company. The Industrial Instrument Company is a Connecticut corporation, with authorized capital stock of \$2,000,000. This company now owns the entire stock of the Standard Gauge Manufacturing Company, until recently of Syracuse, N. Y., and of the Standard Electric Time Company, of Waterbury, Conn. The Standard Gauge Manufacturing Company will be reincorporated in Connecticut. It has purchased a plant at Foxboro, Mass., into which it has moved from its outgrown quarters at Syracuse. The sales end of the business will be carried on by the Industrial Instrument Company of New York, which has recently been formed for this purpose. This company will handle the entire output of the Standard Gauge Manufacturing Company, and also the industrial branch of the business of the Standard Electric Time Company.

**Sewerage and Water Works Supplies.**—A correspondent in Temesvár, Hungary, asks to have sent him catalogues of water works and sewerage supplies and devices. He expects to compete for this work in a neighboring city and wishes to introduce American machinery. The address is Márki és Barta, Mérnökök, Gépgyára és Ontódéje, Temesvár.

**Reservoirs.**—The Corrugated Bar Company, National Bank of Commerce Building, St. Louis, Mo., has published a pamphlet discussing special problems met with in the design of reinforced concrete reservoirs. A detailed design is given for a rectangular reservoir, vertical walls backed with earth fill, reservoir divided into two compartments by a partition wall.

## PROPOSALS

### GRADING, CURBING, PAVING AND SEWERING

Charleston, W. Va.

The Board of Affairs of the City of Charleston, West Virginia, will until 2:30 P.M. on Wednesday, the 6th day of January, 1909, receive sealed bids for grading, curbing, paving and sewerage certain portions of the streets and alleys of the City of Charleston.

The amount of work embraced in street paving approximates \$210,000 and in sewer work \$30,000. Bids will be received separately for street paving or sewer work.

Each bid on paving must be accompanied with a certified check in the sum of \$7,000, and each bid on sewer work in the sum of \$1,200, drawn upon some known responsible bank in the City of Charleston, W. Va., payable to the order of J. F. Bedell, City Treasurer.

The right is reserved to reject any and all bids, and to let the work as a whole or in part.

For further information call on or address,

W. A. HOGUE, City Engineer,  
Charleston, Kanawha County, W. Va.  
(26-27)

### ASPHALT PAVING, ETC.

Hobart, Okla.

The City Council of Hobart, Okla., will receive bids until 8:30 P.M., December 30, 1908, for paving 47,500 square yards of asphalt paving with guttering and curbing. Plans and specifications on file at City Clerk's office. Check of \$1,000 will be required. Payment will be made in 7 per cent. tax warrants, 10 year. Sample of asphalt mixture must be filed 5 days previous to the letting.

O. E. NOBLE, City Engineer.  
JESSE FIELD, City Clerk.

### REFUSE DISPOSAL

City of Boston—Street Department.

Bids will be received at the office of the Superintendent of Streets of the City of Boston, 47 City Hall, on Tuesday, January 20, 1909, for the erection and operation on the property of the City of Boston at Fort Hill Wharf, of a plant for the disposal by incineration of portions of the combustible waste, to be separated from city refuse, delivered at the plant. The approximate amounts of refuse to be treated, based on the collections for the present year, are as follows:

	Tons.
Paper .....	12,592
Mixed refuse (garbage, ashes and paper) .....	42,982
Mixed refuse (ashes and paper) .....	57,050
Dry-weather street-sweepings .....	2,500

Portions of the above having a commercial value to become the property of the contractor, so long as disposed of in a sanitary manner, the clinker resulting from incineration and clean ashes screened from mixed refuse to be delivered on board city scows.

Alternate proposals will be received on the basis of disposal of refuse as above indicated, the contractor to erect a dumping station at Fort Hill Wharf and incinerating plant in vacant building near the Pumping Station at the Cow Pasture, so called in Dorchester, the screened ashes and clinker to be disposed of by the contractor.

Bidders are expected personally to examine the locations and materials and submit their own plans and detailed specifications. Plans of the locations and general specifications will be furnished on application at the office of the Superintendent of Streets. The contract will be for a term of three (3) years with a right to extend for a further term of five years on the part of the City of Boston.

GUY C. EMERSON,  
Superintendent of Streets.

### GAS AND ELECTRIC LIGHT PLANT

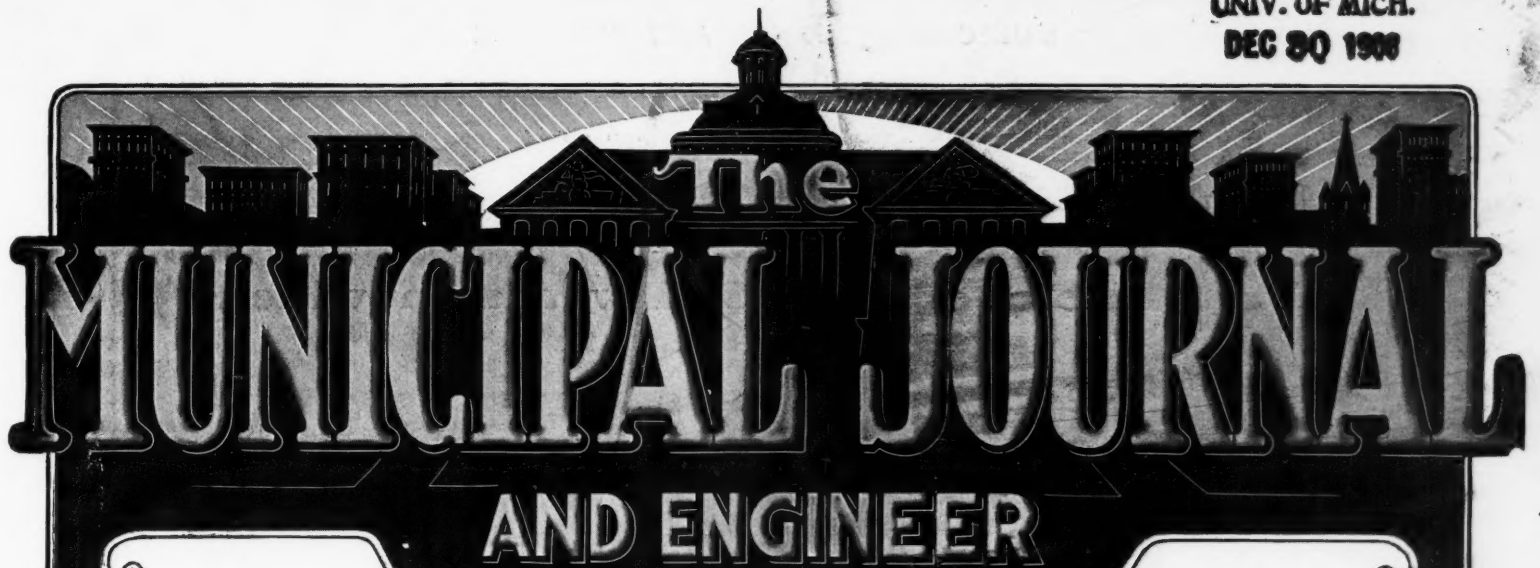
Chillicothe, Mo.

Proposals wanted for the construction of a gas and electric light plant for street and private lighting, with day current, in Chillicothe, Missouri, a city of eight thousand, fifteen-year franchise.

All communications should be addressed to City Clerk.

H. I. SPENCE, City Clerk,  
Chillicothe, Mo.





# The MUNICIPAL JOURNAL AND ENGINEER

VOLUME XXV.  
NUMBER 27

YEARLY \$3  
WEEKLY 10 CENTS

NEW YORK, DECEMBER 30, 1908

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Final Choice of the U. S. Government which  
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WHY? BECAUSE IT IS

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treated with a  
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Break up the old pavement small enough to go into the door. Fill the drum, add a percentage of asphaltic cement. Start the drum, the revolving of which, over a fire, thoroughly cooks and mixes the material, delivering it **better** than when it was new.

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J. P. SHERER,

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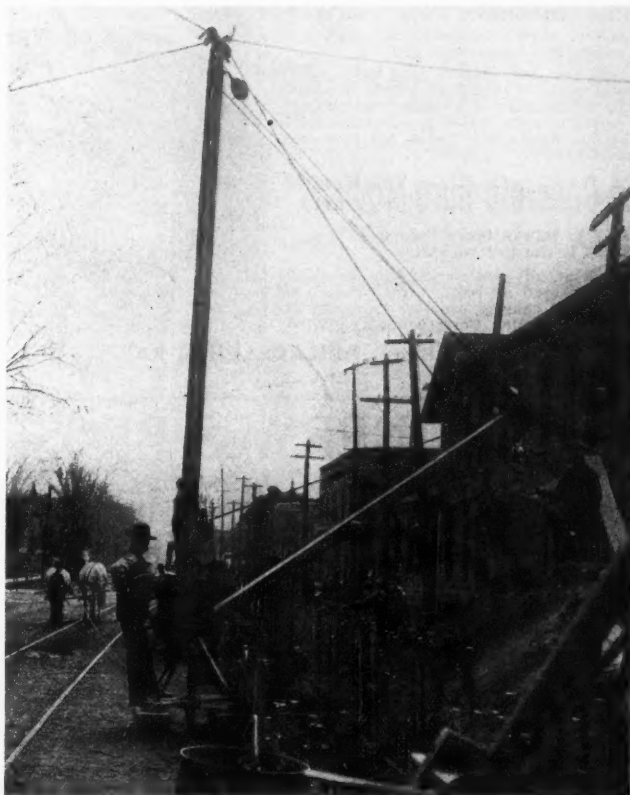
#### MADE IN THREE SIZES

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and all giving great satisfaction as these quotations prove:

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"It is light and convenient to handle which is very important in my case because we have to move so often and set up in such inconvenient locations."

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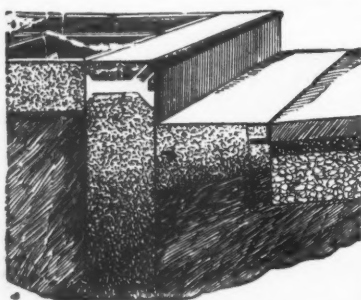
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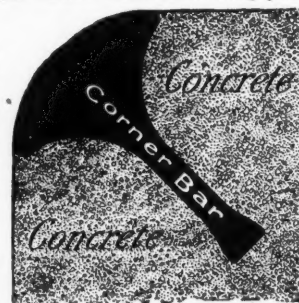
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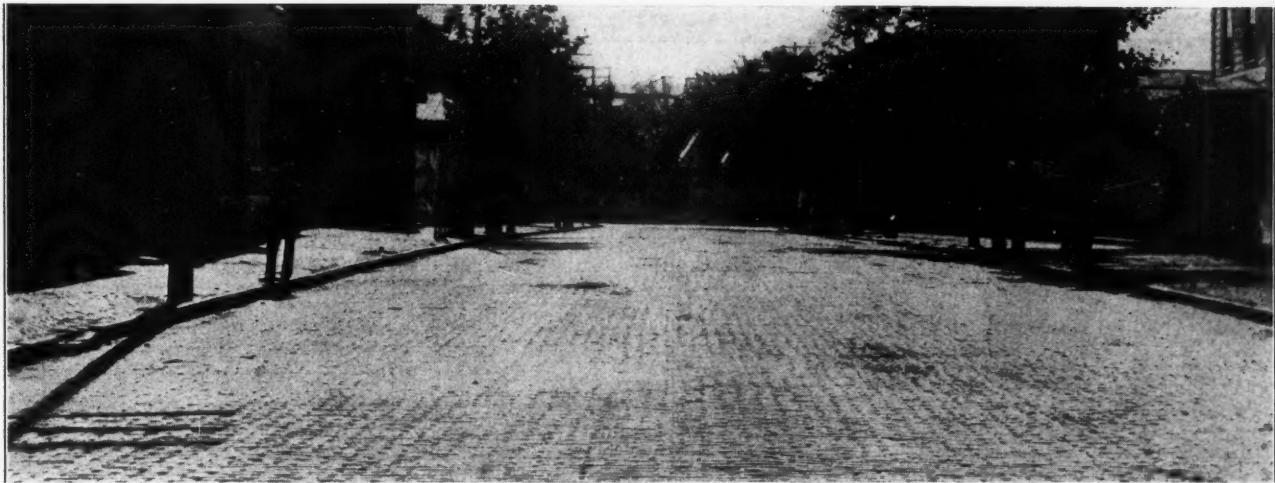
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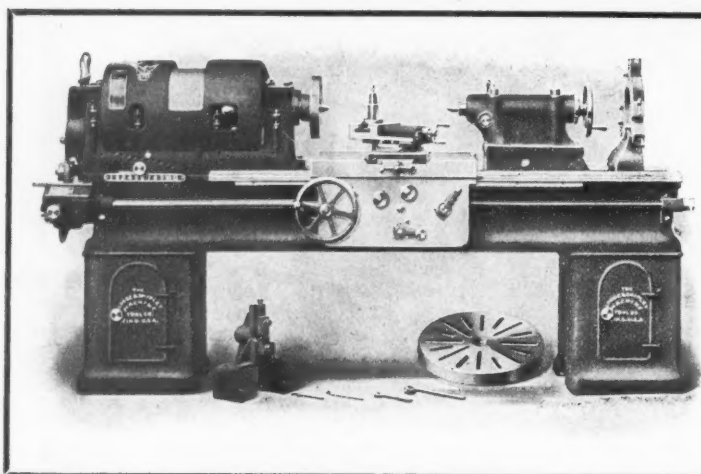
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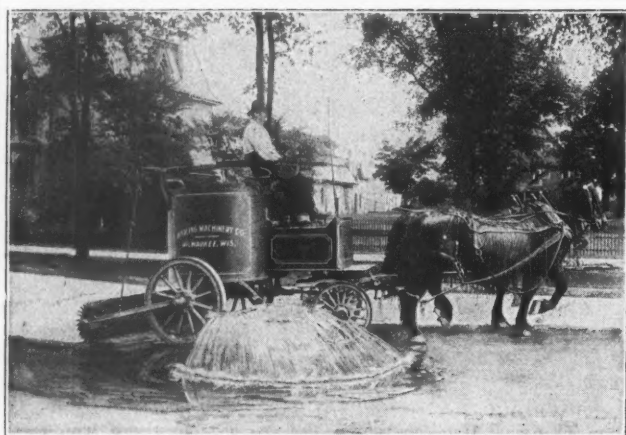
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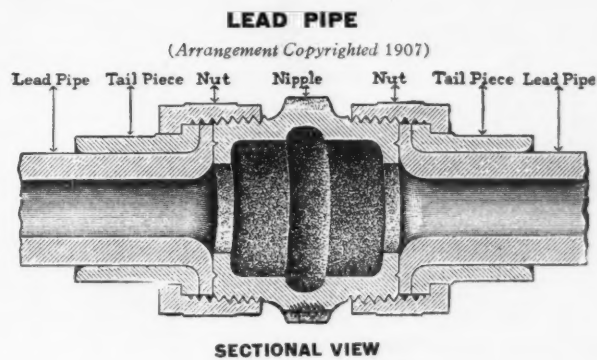
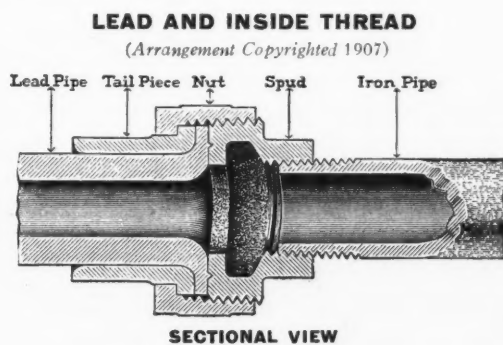
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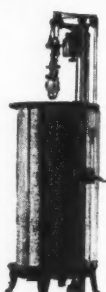
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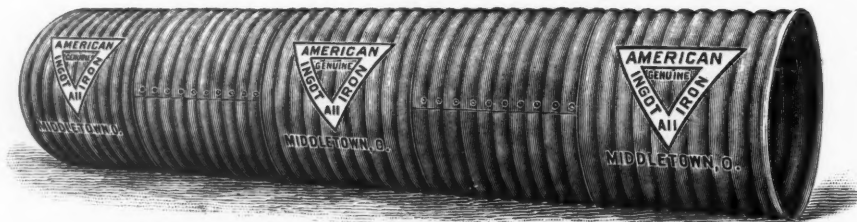
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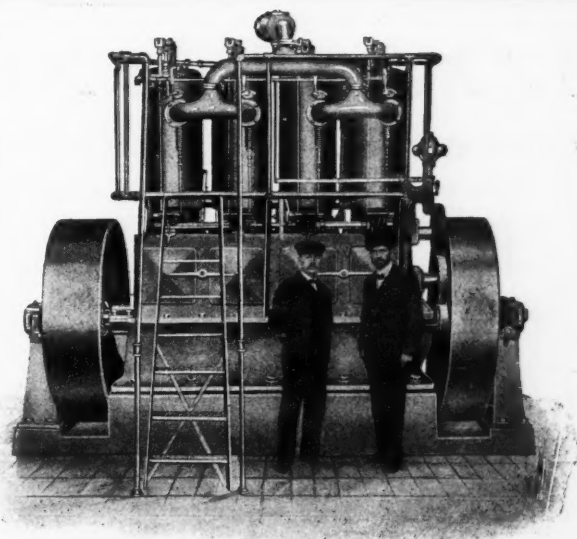
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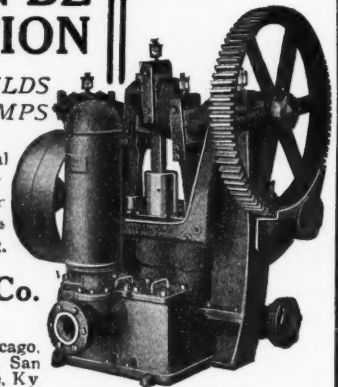
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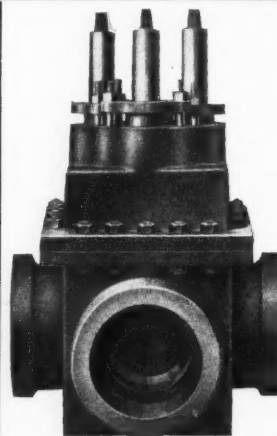
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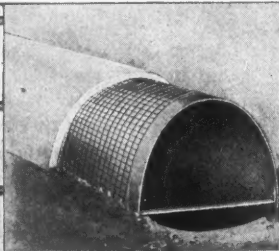
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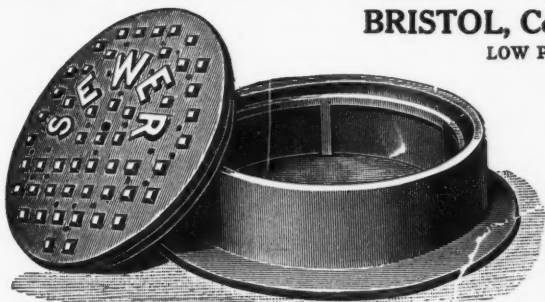
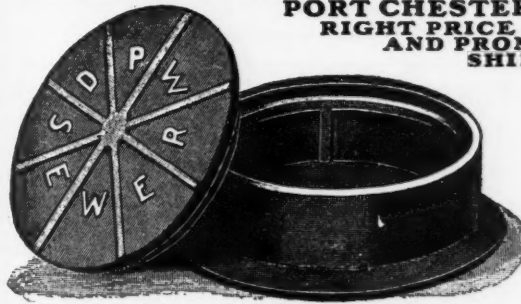
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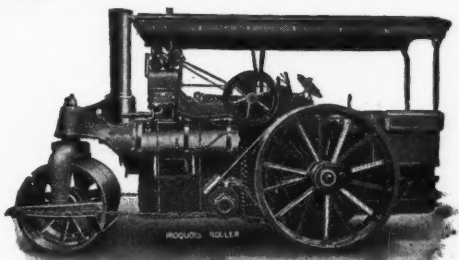
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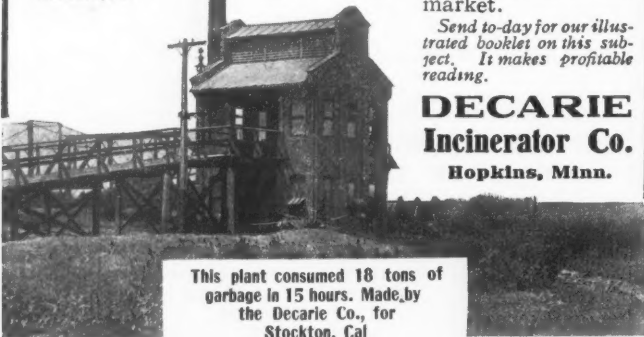
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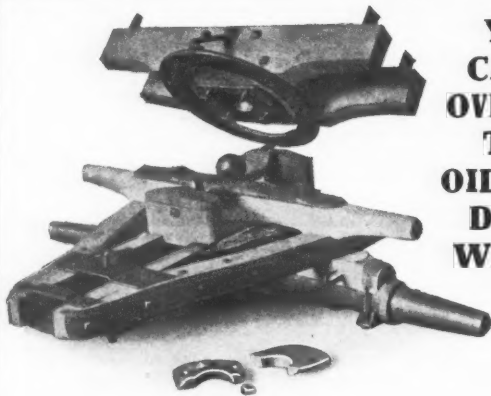
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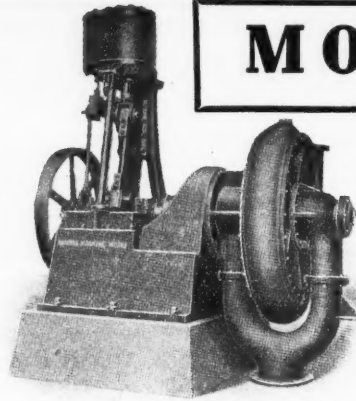
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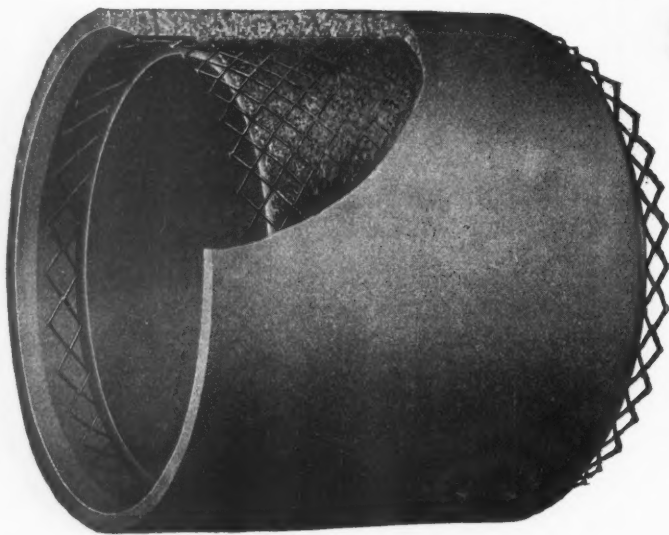
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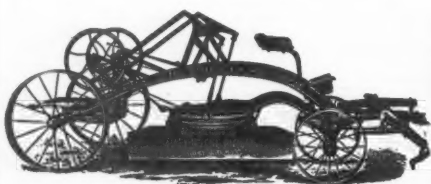
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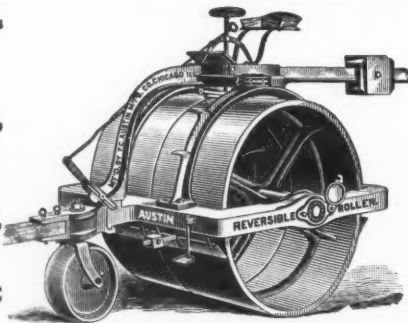
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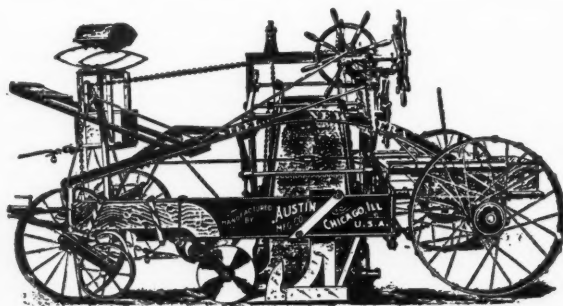
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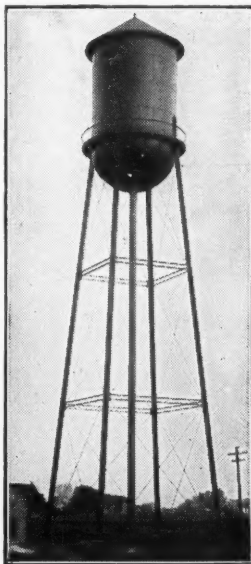


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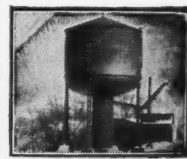
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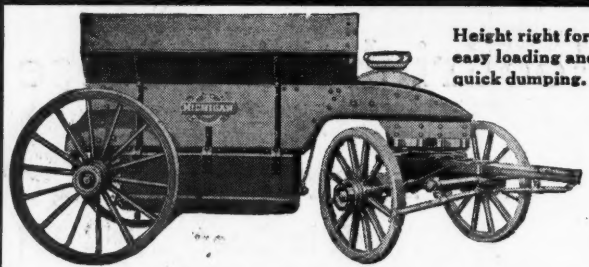
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